

AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, OCTOBER 3, 1835.

[VOLUME IV.—No. 39.]

CONTENTS :

Editorial Notice; Railroad Axles; Internal Improvement.....	609
Canal Meeting; Paving the Streets; City Affairs	610
Dissertation upon the Running Gears of Railroad Carriages.....	611
Pittsburg and Louisville Packets; Navigating the Atlantic by Steam; The two Boat Races; Address to the Mechanics of Easton, Pa.....	614
Agriculture, &c.....	617
Literary Notices, Miscellany, Poetry, &c.....	619-624

AMERICAN RAILROAD JOURNAL.

NEW-YORK, OCTOBER 3, 1835.

We continue in this number, the Essay of Mr. STIMPSON, which was commenced in our last; and we ask for it a candid perusal—which, by the by, is more than we have been able, in consequence of ill health, to give it.

RAILROAD AXLES.—We have in our possession the model of a Railroad Axle, which, in our estimation, will be found an important improvement upon those now in use.

It has frequently occurred to us, that much difficulty and expense must be encountered in repairing the *journals* of railroad carriage, and locomotive, axles. So great is the burthen and speed to which they are subjected, under present arrangements, on our *short roads*—and these will both be increased when the business is better understood—that we apprehend serious difficulty in keeping the journals of a uniform size, and much expense in repairing them when they shall have, as they certainly must in time, become worn by constant use.

In order to repair a journal when worn, either in ridges from any hard particle which may find its way into the box, or out of round, from any inequality in the texture of the material of which the journal is made, the axle must be taken from the carriage, the wheels knocked off, and the journal overlaid, with an additional quantity of iron or steel, in order to restore it to its original size. This is no small matter—as it will require much time and labor, in addition to

which, is the risk of obtaining a journal free from flaws.

The *improved axle*, which has been patented by Mr. Force, of Baltimore, may be used—if made of good materials, and of sufficient strength not to *break*—to wear out many pair of wheels; or indeed, *any number* of years without any other repair than what may be made by the engineer, in a few minutes, *on the road*, without removing the axle, or the load from the car, or carriage. The improvement consists in the application of a *thin steel ferrule*, or thimble, which is made to fit close to, and to remain *fast on*, the journal—which is to be of the best wrought iron, about an *eighth* of an inch *smaller* than ordinary journals. This reduction of size, it is believed, may be submitted to without risk, as there is no wear upon it; and it will, therefore, always remain of its original size. The *wear* upon the journal comes upon the *thimble*, which may be renewed at any time, in a few minutes, by raising the carriage frame; so as to come at the journal, to knock off the *worn*, and to put on the *new*, thimble; which may of course be always on hand, fitted and numbered to correspond with each journal, and will not cost over one dollar each; and certainly not over 20 or 30 minutes of time to put it on; whereas, in the other case, it cannot, we should think, cost less than ten dollars, and an entire day's time to repair one axle.

We ask the opinion of practical engineers upon the subject, and desire to have all objections to it stated.

INTERNAL IMPROVEMENT.—At a meeting of the American Institute of the city of New York, held at Clinton Hall on Thursday, the 24th day of September, 1835, the following preamble and resolutions were unanimously adopted.

Whereas, this Institute was incorporated by the Legislature of this State for the purpose of promoting "*Agriculture, Commerce, Manufactures and the Arts.*"

And whereas, the prosperity of each and every of these departments of industry is greatly dependent on safe, cheap and easy travelling and transportation, especially in respect to our farmers in the interior, also in respect to our manufacturers and artizans, the materials of whose fabrics are to a great extent procured and transported from distant markets and places, and returned again in the manufactured goods. And whereas, the merchant also is deeply interested in internal improvements, as by means of roads and canals production is greatly increased, and the materials embraced by mercantile operations are thereby made more abundant, and the facilities for the purchase and sale of those materials proportionably multiplied.

It was therefore resolved, That the interests of the farmer, merchant, manufacturer and artizan, require that internal improvements should advance, and that no considerations of false economy should be permitted to arrest their progress, but that adequate expenditures ought to be made at once in order to obtain the benefits arising from internal improvements by means of Railroads and Canals, wherever the country will admit, and the wants of the people require such facilities.

Resolved, That these expenditures will be doubly repaid to the state and people; first, in the income received from tolls, and secondly, from increased agricultural production in those fertile sections of this state whose distances from market render the fruits of farms of little value, and in the establishment of extensive manufactories on never failing streams whose waters are now running to waste, and in extended commercial operations and dealings, and in new and vigorous efforts of industry which the expenditures in improvements will inevitably produce.

Resolved, That in order to enable the friends of internal improvements to act with concert and efficiency, a convention be re-

commended to be held at the city of Utica on Wednesday, the 11th day of November next, at 12 o'clock, M., and that it be continued in existence by adjournment and further election of delegates, until its objects shall be fulfilled.

Resolved, That the several cities, towns, counties, and manufacturing and mechanic incorporations, for the advancement of agriculture, commerce, manufactures and the mechanic arts, in this State, be respectively and respectfully invited to send delegates to meet in the aforesaid convention, to be selected from the most able and best informed of our fellow citizens.

Resolved, That the foregoing preamble and resolutions be published, and that the publication thereof be and the same is hereby declared to be an invitation to our fellow citizens, included in the above description of persons, to appoint and send delegates accordingly.

EDWIN WILLIAMS, Rec. Sec'y.

P. S. Editors of papers friendly to internal improvements, are requested to publish the foregoing.

[From the Maine Farmer.]

CANAL MEETING.—In compliance with a public notice, a large number of the citizens of the several towns of Farmington, Chester, Livermore, Fayette, Wayne and Gardiner, assembled in Fayette on the 3d inst.

The meeting was called to order by E. SMITH, and the object of it stated. MOSES HUBBARD, of Fayette, was chosen Chairman, and ENOCH SMITH, of Fayette, Secretary.

Voted, That a Committee be appointed to ascertain and cause an immediate survey to be made of the most feasible route for opening a communication by means of Railways and Canals from Winthrop Stream, through Wayne, Fayette, Livermore, and Chester, to Sandy River.

Henry W. Owen of Wayne, Ezra Fisk of Fayette, James Wing of Wayne, Capt. Cyrus Foss of Wayne, Josiah Chancy of Chester, Dr. H. G. Allen of Wayne, Thomas Haskell of Livermore, Reuben Lowell of Chester, Lewis Hunton of Livermore, Daniel Fifield of Fayette, John Morison and Joseph Ware of Farmington, were chosen a Committee for that purpose.

A statement of a survey from Kennebec River to Wayne Mills was made by Mr. P. Sheldon of Gardiner, and the utility and importance of Internal Improvements warmly urged. Communications were also made by gentlemen from various sections of the contemplated route, and a lively interest manifested in the undertaking.

Voted, That the proceedings of this meeting be signed by the Chairman and Secretary, and published in the Maine Farmer.

Voted, That this meeting be adjourned to meet at the Baptist Meeting House in Fayette, on Thursday the 22d of Oct. next, at one o'clock in the afternoon. Per order,

MOSES HUBBARD, Chairman.

ENOCH SMITH, Secretary.

Fayette, Sept. 3, 1835.

[FOR THE NEW-YORK AMERICAN.]

As the attention of our city authorities seems directed to the subject of paving the streets, it has occurred to me to suggest a mode different from any in use in this country, and which yet seems

more applicable than any other to our city. This is the system of laying flat cut stones, nicely jointed, for the wheels to run on, leaving the rest of the road in its present condition. In Broadway there might be four railways—if I might so call them—of this nature; two for carriages ascending, and two for those going in the other direction. The effect of this system would be to keep vehicles to their proper side, more than is now practised, and to obviate those disasters so common in our streets. The wear and tear of horses and carriages that would be saved by this mode of paving, would be immense, and would soon repay the expense of the alteration. If it should be objected that these railways, by keeping vehicles in rows following each other, would reduce the whole of drivers to the same gait, it may be answered, that after all, the pavement would be no worse in this respect than it is now; but that, on the contrary, in consequence of the greater order, it would be much easier for fast drivers to turn out. It might, moreover, be advisable to confine loaded vehicles, going at a walk, by law, to a particular portion of the road.

This plan of paving is neither new nor speculative. The streets of Milan are all laid in this way, and those who know that delightful city, will join me in attesting the ease with which they are traveled. In London, moreover, the road from the West India Docks to Wapping has been furnished with a track of this description, by means of which a single horse is able to draw a weight of sugar, which four would not be able to move on the ordinary pavement. X.

CITY AFFAIRS.—Under this head we publish a communication to-day, that appears to us to present some most important views, as to the necessity of immediately improving the streets, and avenues of the upper part of the island.

It is in this way that lots distant from the thickly settled parts of the city, may be put within the reach of mechanics and young beginners, who have their fortunes to make, instead of compelling them, by high rents, to seek dwellings over the rivers that bound us.

A railroad too, that should bring people down into the heart of the city, is now, we are well satisfied, a desirable improvement. We thought otherwise when such a scheme was first proposed, but the impassableness and dangers of Broadway, by reason of the omnibusses and other vehicles, which constantly crowd it, have convinced us, that rail cars, following a given track, from which they cannot deviate, drawn by horses, and announced by bells, as in the sleighing season, would be altogether safer, more convenient, and more advantageous to up-town residents.

[FOR THE NEW-YORK AMERICAN.]

CITY AFFAIRS.—The recess, which the members of the Common Council took during the month of August, has probably enabled many of them to notice the improvements in contemplation, in the different towns and cities in this section of the Union. They could not have failed to observe that the provisions, as compared with their respective present populations, for future increase, every where else, vastly exceed what our own city exhibits. I have not seen the returns of the census now taking, but computing our population according to the number of lots assessed as occupied, it cannot be less than 285,000, or an increase of 40 per cent, since the census of 1830, which gave 202,960. Supposing the population to advance in the same ratio for the next five years, there will be during that period one hundred and twenty thousand new inhabitants. The rule adopted by the Water Commissioners, in making their estimates, was to calculate 9-5 persons for every lot of 30 by 70 feet. As the city advances, the ordinary size of lots is enlarged, and many new houses will require more than one lot. It would probably be fair to suppose that in the present 12th Ward, lots will be at least 25 by 100 feet, and that therefore 12,630 lots will be required for the occupation of 120,000 persons; that is to say, of the next five years' increase. Not only will these be wanted, but, at least, 3000 more for churches, public squares and edifices, including reservations for receiving reservoirs, coal

and lumber yards, &c. &c. It is also to be borne in mind, that, owing to the disputed titles, and the desire of proprietors to take advantage of the enhancement growing out of their neighbors' improvements, a large amount of lots are for years, kept out of the market for all building purposes. There are between 23d and 57th streets, the 1st and 10th avenues, only 18,536* lots, which will exceed the additional number required for the next five years, including the computed provision for public purposes, by scarcely more than 3000 lots. It is, therefore, reasonable to conclude that, even if our commercial prosperity does not advance at an accelerated rate, the neighborhood of 57th street will, in five years, be more densely populated than that of 23d street (where the prices, according to locality, range from \$1500 to \$3000) now is.

What arrangements are made to meet the wants of this new population? The graduation of lots is not legally established above 33d street, and even the adoption of the plans, which have passed one Board, would be but a very partial provision for the growing wants of the city. Some even of the streets below 23d street, and most of those above that line, are as yet unopened by law. Should the corporation now order, as proposed, all streets below 42d street to be opened, judging from the time consumed by the Wooster street and other Commissions, years must elapse, according to the present system, before any thing effectual is done. In many cases, even when the dilatory action of the commissioners has been overcome, no progress has been made towards giving a practical operation to the legal proceedings. Thus, in May, 1833, Union Place was opened by law, and assessments paid by individuals to the amount of a quarter of a million of dollars, yet it was not till the autumn of 1834 that any provision was made by the public, for enclosing and embellishing the square; and though the importunities of individuals have at last been so far successful, as to induce contracts for the necessary coping, &c., to be entered into, there is no prospect that any thing effectual will be done, to point out where the square is, till three years have elapsed from the time that the assessments were actually levied. Even when contracts are formally made, their execution, as in the case of 14th st., and of the paving of Union Place, is allowed to be delayed for months with impunity. It may, indeed, be well for landholders to inquire, whether it is not the duty of the Street Commissioner to impose the stipulated penalty on the contractors, and thus diminish, *pro tanto*, the tax to be levied on the parties liable to be assessed for the improvements, and who are the real sufferers by the delay.

Again: is the convenience of the people of Yorkville, and of a large adjacent population, who were obliged to go a mile and a half to a dock at the foot of 54th street, in order to obtain their fuel and other supplies furnished by water, led, several years ago, to the opening of 79th street to the East River. Yet, although the assessments on the adjacent property have been long since paid, there is nothing even now to distinguish that street or road from the neighboring fields.

Let any man visit Brooklyn, or Williamsburgh, (to say nothing of Boston or Philadelphia,) and compare the works there going on, with the perfect inactivity everywhere manifested on this island. The few laborers who are employed, seem to be engaged almost exclusively on the old roads, where their work is in a great measure useless, inasmuch as these irregular lanes are unknown to the legal map of the city, and must be closed on the opening of the Avenues. If complaint is made to the public administrators, by citizens whose whole fortunes are staked on the prosperity of this great commercial emporium, the only reply which is vouchsafed is, that "Brooklyn and Williamsburgh pay higher wages than we do, and therefore take off all the hands." It is obvious that if wages have risen, we must pay as others do, and no one can regret that every class of citizens, should participate in the exuberance of our prosperity. It is infinitely better for the owner of property, by whom in most cases the expense of public improvements is exclusively borne, to contribute a little more than formerly, and have the work promptly done, than it would be to have the streets in front of his lots gratuitously graduated and paved, half a dozen years hence.

* In this calculation, allowance is made for intermediate avenues between the 3d and 4th, 4th and 5th, and 5th and 6th Avenues, two of which have already been partially established by law.

To the prosperity of the city the difference is incalculable.

Much has been said, during the last two or three years, in the Common Council, by the representatives of the upper wards, as to the importance of placing the Custom-house in a more central position, and against increasing the facilities of communication with Brooklyn. The writer of these remarks has always believed that in the great commercial emporium of the United States, provision should be made for the office of government, on a scale of magnificence commensurate with the revenue received here, and the future, as well as present, business of New-York. He has, also, been of opinion, that, while the people of the opposite shores have their places of business within our corporate limits, and derive from this city their means of living, they should be made to contribute proportionably to those expenses, which are incident to the seaport, by which they are sustained.—But so far as regards the bearing of these matters on the prosperity of the city, or of the upper wards in particular, they are insignificant in the extreme, compared with the importance of giving efficiency to the Street Commissioner's department. Where are the lots on this island, the graduation of which is settled, and which are susceptible of immediate occupation, that are within the reach of men of small means, and who wish to put up houses for their own accommodation? Scarcely a lot, on the streets opened by law, and within the range of graduation, can be purchased for less than \$1,500 or \$2,000. Hence, by our own acts, a large portion of our industrious population are driven to the opposite shores, and New York is deprived of citizens, whose future accumulations, though deduced from our unrivalled position, will never contribute to the alleviation of our city taxation, or to the augmentation of the property of those, on whom falls exclusively the burthen of sustaining the commercial emporium.

It is not intended by any thing here said, to derogate from the merits of the present Street Commissioner, who, it is understood, is about to retire from an office, for which he undoubtedly possesses eminent qualifications. But, views of policy and a system of organization, which would suit a town of 60,000 inhabitants, are scarcely adapted to a city of 300,000; and if the officers of the Corporation have not kept pace with the advance of our city and country, they have only erred in common with most of the men of the last century. The time, however, has arrived, when it is necessary for our municipal authorities to arouse from their lethargy, or to acknowledge as sober realities, what we have been accustomed to regard as the visionary dreams of our neighbors—that "the sceptre has already departed from Judah," and New York become a suburb of Brooklyn.

A NEW YORKER.

A Dissertation upon the Running Gears of Railroad Carriages—illustrating some of their most important natural Mechanical Actions, inseparable thereto; and also describing a remedy for the evils set forth in the Dissertation, embracing principles not heretofore known. Also, a concise description of a Turning Platform for Railroad Carriages—a Curvature to turn corners of streets, wharves, &c., and Grooved Rails for the Curvatures, and the general use of the streets. Also, a newly invented Wrought Iron Wheel, for Railroads. By JAMES STIMPSON.

(Concluded from our last number.)

The inclination of loose wheels to gather in at the bottom if conical, and the ill effects resulting therefrom, &c.

Again, wheels that are formed in the least conical upon their treads will incline or gather in towards each other at their points of contact with the rails, in the same manner as a leather belt inclines to the largest part of a pulley, and with a power equal to that of the adhesion of the wheels to the rails. This tendency to run in has no other effect upon wheels made fast upon their axles, when both they and their axles are sufficiently stiff or strong, than to keep them upon a constant strain inwards at their points of contact with the rails, and to bend or

spring the axles upwards; but upon wheels loose upon their axles the effect is almost incredible, the power exerted upon the axles at the exterior edges of the naves is equal to three thousand and six hundred pounds; for in medium sized wheels the leverage power of the periphery over the inside of the nave is as twelve to one, by which if we multiply the estimated power of adhesion of one wheel, or three hundred pounds, we obtain the result aforesaid. It must be evident to any one that such a power constantly exerting itself, or in other words, grinding upon the axles at the exterior edges of the naves, must soon wear them larger outward from their centres each way. It may also be observed that every time the wheels turn round there must be a constant tendency to oblique from a perpendicular line, if there be any loose play between the naves and axles; for the sides or points of the wheels, which were last in contact with the rails, were of course within a plumb line through their centres when compared with the sides or points immediately above—and they must be as much without that plumb line when at top as they were within at bottom—so that in changing from one position to the other they must be constantly obliquing. Now as three feet wheels turn around five hundred and eighty-four times in a mile, the gripping force as before set forth of three thousand and six hundred pounds is constantly acting upon them in addition to the weight of the load, the carriage, and the power necessary to manage and control the wheels—so that no one can be at a loss in accounting for the early and rapid destruction of the naves and axles, when the wheels are left loose, or for that of the collars and washers within which the naves revolve; and more especially when it is considered that all these movements at the naves, besides being under such a stress of power and weight, take place in a situation extremely exposed to the deposit of dust and dirt; for the wheels generally run so fast that the dirt is thrown from their peripheries up against the carriage or covers of the wheels, and even into the air, whence it falls upon the axles, there to mingle with the oil, to work in between the moving surfaces about the naves, and necessarily to impair them very fast. Thus they soon become so very loose upon their axles as to render their passage through a crossing or round a curvature extremely dangerous.

And again, a mere trifle of loose play between the naves and axles, allows considerable variation from a perpendicular at the peripheries of the wheels, and thereby cause their treads, although conical, to lay flat upon the rails: from whence it necessarily follows, that as much as the inside of the tread is larger than the outside, so much the outside has to be slipped along over the rail to a great loss of power and extra wear of both wheel and rail. To obviate these difficulties in part, one wheel has been made fast upon each axle and the others left loose; but practice at once proved that the stress upon the loose wheel was quite doubled, and its destruction made rapid in proportion—and the use of loose wheels has been abandoned on account of the cost of repairs, and their total inability to guide the carriage.

Thus it is manifest that the natural tendencies of loose wheels are to their own rapid destruction, and that therefore they are inapplicable to the use—and the only remedies supposed to be left to obviate some of the principal difficulties that have been enumerated, was to be found in the use of

vibrating axles or small wheels made fast to the axles. It is well known that by a reduction of the size, the stress at the axles would be reduced, and that the risk of breaking them, when it became necessary for any of them to slide, would also be reduced; and this effect was necessarily produced by the change. But they are after all subject to all the extra wear produced by sliding, and to the stress upon the wheels, axles, keys and carriage, which has been already alluded to; that is exactly all that stress in proportion to their size; while at the same time their liability to run off the track is proportionate to the difficulty of changing their line of direction upon the rails at the commencement of a curve.

Vibrating axles—the bad tendency thereof, &c.

I have before said there was an impropriety in using them, and it may be proper here to give the reason. I will first however call attention to the usual and necessary play allowed between the flanges and the inner edges of the rails—this play is about an inch and three quarters, more or less, but the less the better, where the curvatures of the road will admit of it, as from a proper attention to this point alone greatly depends the injury to the road, the carriage, and the liability of running off the road. For example, we will suppose the flanges of the fore and hind wheels, upon the diagonal corners of a carriage, whose axles are confined in a parallel position, to be close up to the rails each way, and that the axles are coupled three feet six inches apart, consequently all the angle across the track that could ever be formed, would be that of one inch and three quarters to forty-two inches; this angle is so slight that when the flanges do touch, their power of action either to injure the flanch or rail, or to spread the rails apart, is of course lessened in proportion to the acuteness of the angle; this position being well understood, that which follows will be fully comprehended. Now with vibrating axles there is need of as much loose play between the rails and the flanges, as is allowed to fix axles, and even twice the distance is allowed; let it be more or less, it is certain that when the axles are allowed to vibrate sufficiently to conform to the plane of the radius of a circle of four hundred feet, and when the fore axle is up to the extreme limits of its vibration on one direction, if the other is exactly square with the frame of the carriage, the angle of the other with the track would be twice as obtuse as the one with fixed axles can be in the same relative position; but if the hind axle was thrown in a contrary direction to the front, which must and often will be the case, even by their own action or the formation of the track, and very often from extraneous causes, such as impediments to motion upon the rails causing a slipping, &c.; then the obtuseness of the angle becomes three-fold, or in other words, it has three times the power to run off the track that the fixed axles have.—Should this position of the axles happen just at a crossing or curve in the tracks, and the curve be across the set of the wheels, then the course of the wheels would be almost at right angles with the line of the road, and the power to run off the rails six times as great as the fixed axles. It also follows that the power to spread open the track is increased in the same proportion, for when the flanch is locked or hard up to one rail, it can go no further in that direction, and the wheels upon the other track act with all their power of adhesion to

force the rails apart; hence the lateral strain upon the boxes, or if friction wheels be used, the lateral pressure will be against their backs, acted upon by the ends of the axles, all of which has a powerful tendency to rack and loosen the joints of the carriage; for whenever one axle runs across the other, a constant slipping of the carriage transversely upon the axles takes place, and the lateral pressure against the shoulders of the axles, if they have any, and sides of the boxes, or against the back of the friction wheels, by the ends of the axles, is far more than can well be imagined until the principles of the action is well understood, or the powerful and destructive effects shown by examining the parts. I have seen many backs broken out of friction wheels from that cause alone, vibration—and the greater the play allowed between the ends of the axles and the backs of the wheels, or the shoulders upon the axles and boxes, the greater will be the damage; for the carriage will slide off and on transversely upon the axles, with all apparent ease, as if it weighed but a single pound.—It must be obvious that the greater distance such heavy weights are allowed to move, the more violent will be the injury here spoken of when bringing up. My joint is a perfect remedy for this evil, as my experience has demonstrated.

There are other considerable objections to the use of vibrating axles, to which it may be proper here to allude. They will keep vibrating almost constantly, and cause a continual chafing of the wheels and rails, which the fixed axles would not, producing a very unpleasant sensation upon the minds of the passengers. This constancy of vibration arises from the obtuse angles or rank shear the carriage wheels obtain across the track; for it is certain that one rank shear cannot be overcome or mended without making another, and this is owing to the fact that they must run up a greater distance upon the cones to overcome the shear than the track itself requires; it therefore turns off not exactly upon the line of the road ahead, but across it, and there it meets with the same difficulties, unless it has passed upon a piece of road favorable to its true adjustment. But should the road be unfavorable to such adjustment, then the vibration, and consequently the difficulty, would be increased double, and often three-fold—this could never take place with fixed axles. In order further to illustrate this position, and to show the true cause of this vibration, which is to be found in the position of the carriage or axles, we will suppose the range of the axles to deviate ten degrees from that of the track, and that both axles are parallel to each other, it necessarily follows that the front wheel which first arrives upon the cone, cannot change the direction of its axle, until it runs far enough to gain upon its fellow sufficiently for that purpose, and also to overcome the obtuse angle the carriage or the hind axle had at the outset; so that the distance the carriage will go ahead before it can turn off is much farther than was necessary to properly adjust it to the true range of the track; that is, when the front wheel had arrived upon that part of the cone proper to run the track, the hind wheels had not, and the front consequently has to run enough farther ahead, still upon an oblique direction, to adjust both points, and thus overreaches its proper position by forming a circuit as it were in making the change; and thus having gone too far, it of course turns off the contrary way, and then ensues the same difficulties as before, and

so on continually. All that can be said in favor of vibrating axles is that in certain situations they will prevent a slipping of the wheels upon the rails; but the extra wear from the more frequent vibrations, the loss of power, and above all the great liability to break the flanges and to run off the tracks when under much speed, will by far outweigh all the benefits they possess. To use vibrating axles with friction wheels is contrary to the generally received and common understanding of mechanical principles, at least so far as I comprehend them. Indeed the absurdity to my mind is so great that nothing but having actually seen it in use would have induced me to believe it.

An experiment to prove the transverse inclination of conical wheels.

I am aware we have been told by very learned gentlemen in mechanics that when the axles and wheels are so stiff that they cannot spring or give way in any perceptible degree, that the tendency of the wheels to incline or gather at the bottom could not take place, or the separation of the rails ensue, because, say they, when there is a little or no inward movement, no such effect can be produced. I cannot however see it in that light, for I have applied means, and put myself to some expense to try it in a way that cannot deceive. I will here state the result of my experiment, that others may be the better able to judge. In a horse locomotive which I invented some years since, I had wheels four feet in diameter, cast iron naves, wooden spokes and fellows, their peripheries were turned in a lathe perfectly round and cylindrical, and then tired with rolled iron plates, the flanges bolted upon the sides of the fellows, so as to make them very strong; the hubs were drilled out to fit close upon the axles, and each wheel was revolved upon its axle between collars and a cap: the cap was fixed fast upon the axle, outside of the naves, by a strong key running through it and the axle, and was made as large as the outside of the nave of the wheel; both were turned true and faced up to each other; within each of these caps were two catches, which acted against rack teeth in the face or end of the nave, to turn the wheel. The power of action being applied to the axles, the catches turned the wheels as fast as the axles, but they could turn faster at all times when necessary. In 1829 and '30 I run it with the peripheries entirely cylindrical, and it went perfectly smooth, still, and free from any lateral movement or pressure. Being so well prepared to carry out or prove my views in regard to the transverse action or conical wheels, I paid Mr. George Reader 25 dollars to turn the tires conical. I put them to work, and the instant they started they inclined inwards at the bottom. They had not revolved fifteen times before they made a jump outwards, (to do which it was necessary to overcome the whole adhesion of the wheels to the rails,) and so continued to act as long as I used them; that is the wheels would run in towards each other at the bottoms until the strength of the spokes and rims could no longer yield, and they would then spring outwards to a vertical position. I could perceive there was an easement to forward motion the instant the wheels were upright by the movement of the car, much the same as is observable in steamboats by the engines passing their dead centres. The retardation of the car arose from the outside of the wheels being smallest, and of course having to be slipped upon the rail, while they touched upon the whole width of it, as much as the outside

of the wheels were smaller than the inside. As soon as the wheels were upright the greater part of the resistance was removed, as the bearing surface was contracted.—The powerful effect of this action inwards, pressing the naves of the wheels against the collars and washers, was such that I found it necessary to put in washers an eighth of an inch thick nearly every ten days of use, to prevent the wheels from falling in between the rails. Mr. Washington, of the firm of Majors & Washington, made the washers, and he saw and knew the cause of the destruction: I mention his name that he may be applied to if desired. I am well convinced that the damage at the nave and upon the axles, collars, &c. of loose wheels, is so great, (unless their diameters be very small,) that the advantage of their not slipping cannot compensate for the additional cost caused by their speedy destruction, and more especially if the treads be in the least conical.

Let us next inquire why they run in when conical, and not, when cylindrical: The naves being six inches long, drilled out straight in a chuck lathe, and the weight of the carriage, with two horses, and three to fifteen persons, one would think, resting upon the inside of the naves, would certainly have some tendency to keep the wheels upright; for when out of plumb, the bearing, if there were any loose play in the naves at all, must be upon the extreme inner edge of the hub, requiring some power surely to raise it in that position; at the same time the naves were placed between the cap and collars, and keyed up as close to each other, when first in operation, as they could be. Their running in notwithstanding shows that there is a natural mechanical tendency to run in, whether the strength of the wheels and axles yield to it or not, especially when it had to overcome a very great opposition, at the very instant it commenced.

I should prefer to have all that part of the wheels outside of the cone entirely cylindrical, there being but one part of the road where they can be injurious, and that but a small portion of it, and even there it may be remedied by a proper mode of forming the iron plates; the portion of the tracks to which I allude, is the inside rail of a circle. When a cylindrical wheel turns upon a flat horizontal rail the bearing in contact will extend across the whole width of the rail, the outer edge of the inner wheel must therefore be retrograding, or twisting, as it rolls around the curves, nearly as much as the outer edge of the rail is shorter than the inside; but if the inside rails were rolled with an elliptical face, or made thickest on the inner edge, then the bearings might be contracted as much as it might be desired. Under this mode of construction the difficulty would be removed. Should the rails become worn down flat, the cones would also by the same time wear away the inner edge of the outer rails; the rails would then only require to be changed, one for the other, so as to reinstate them nearly as at first.

A reference to common coaches, so as to understand the use of the joint, &c.

Having described the nature of some of the most remarkable and important difficulties that exist in the operations of wheels as now used upon railroad carriages, which it is the object of my improvement to obviate, it may be proper to make a few remarks upon its utility and easement to motion, in order to make its merits obvious and familiar to those who may not have had an op-

portunity of becoming acquainted with the operations of railroad carriages: and I will illustrate the subject by reference to the operations of common coaches. In these it is well known, that the pole at the fore axle is the means by which all the wheels are guided, that all the wheels are loose upon their axles, and that when going in a curved line or direction, the hind wheels follow nearly in the track of the fore ones. Now it will be easily comprehended, that when turning a curve, the wheels upon the outside of the curve must necessarily turn round faster than those upon the inside, because they have to run a greater distance. But suppose the wheels upon the hind axle were made fast; in that case, the wheel upon the outside of the curve, instead of rolling faster, would be dragged along as much as the distance described by the wheel on the outside exceeds that described by the wheel upon the inside of the curve, or if this does not take place, the inner wheel must slide back: for one or the other must necessarily slide, and in either case the stress upon the naves and axle will be the same, and the necessary extra power to turn them, just equal to that of slipping the wheel.

We will now apply the same facts to wheels on a railroad carriage geared according to my improvement, and consider the cones upon the fore wheels, both of which are to be made fast to their axle, as the pole of the coach, and the joint in the centre of the hind axle, as a substitute for the loose wheels on the coach; and it will be readily perceived that the carriage will then turn a curve with the greatest ease; for the joint in the hind axles permits the hind wheels to act independently of each other, and thus enables one to describe a greater space in the same moment of time; thus preventing the necessity of any dragging or sliding of the hind wheels, and thereby leaving the cone of the fore wheel in possession of full power to guide the carriage in the direction of the track: which it will be able to accomplish with as much ease and certainty, as a coach is guided by means of the pole. With this joint the cone of the fore wheel will be much more efficient in guiding the carriage than it would be, if, instead of the joint in the axle, the hind wheels were left loose upon their axle—for when the wheels are made fast, the axle, although it have a joint in its centre, turns with the wheels as if it had no joint, and the bearings of the axle are but two inches in diameter: but when the wheels are left loose, the diameters of the bearings of the axles within the naves of the wheels are required to be nearly three inches, which, by increasing the amount of surface in contact, increases the resistance to the revolutions of the wheels in the same ratio—to which should be added the friction at the end of the naves, against the collars and washers, and the gripping or grinding power of the naves upon the axles, produced by the inclination of the wheels to run in at their points of contact with the rails, as before stated, together with the effect produced by the weight of the load and carriage. It will then be clearly perceived by comparing the two modes, that the hind wheels will much more readily conform to the movements and guidance of the cones upon the fore wheels, when they are made fast upon an axle with a joint in its centre, than when they are left loose upon an axle without a joint—for at the joint there is no friction of importance produced by the superincumbent weight. Indeed the hind part of the carriage by means of the joint will yield to the action of the cones as easily as if centred upon a pivot.

It is also worthy of remark, that the joint is two feet and nine inches from the centre of the wheels at their naves, so that it possesses a leverage power, proportionate to that distance, to hold the wheels in an upright, steady and firm position, and save itself from being cut by its own slight movements.

What then can be more simple, safe and consistent in its practical operation and effects, than this joint, to consummate that grand object for the attainment of which such a multitude of changes in the mode of gearing wheels have been made both in Europe and America since the first introduction of railroads—and without it, those changes would necessarily continue to go on; for it has been abundantly evident, that when the durable nature of the materials made use of is taken into consideration, a sufficient remuneration in their increased duration has not been realized. But on the contrary it has been manifest, that there existed some hidden cause of destruction, far exceeding that to which carriage operations upon common roads are comparatively liable.

I have thus endeavored to point out as distinctly and concisely as possible the difficulties necessarily attendant upon the operations of the wheels of railroad carriages as now geared and used; and I am satisfied that the remedy I have provided will be amply sufficient to accomplish the object for which it is intended, and that when carried into operation, it will prove entirely satisfactory and become the standard in future operations. I flatter myself that no further alteration or amendment will be requisite, for nothing can surpass it in simplicity and efficiency. For a period of more than four years, I have been engaged more or less in testing its utility in practice, and I am certain that I cannot be laboring under any delusion or mistake as to what I have stated in relation thereto. I have forborne to give publicity to this improvement hitherto from a desire to prove its utility and practical efficiency to my complete satisfaction at my own leisure and expense, as well as to give time to others to try their different projects, that they might perceive how difficult, and yet how important it was to provide a remedy for the difficulties which they have been laboring under, in hopes that when made known they would be the better able and the more willing to appreciate its value when understood and realized.

Formation of Wheels, &c.

Before closing my remarks I will observe that the peripheries of the wheels should be made perfectly cylindrical or horizontal as to all that portion thereof designated and known as the tread, and that the inclination and breadth of the conical part of the peripheries should vary according to the radii of the curves in the tracks on which the wheels are intended to run—and the distance between the foot of the cones on each side of the carriage, when it is standing centrally upon the rails, must be a trifle less than the distance between the inner edges of the rail plates; so that running on a straight line of road no portion of the conical part of the peripheries of the wheels shall come in contact with the rails.

My reasons for preferring this form of wheels are, that when running upon their treads or cylindrical faces, which they will always do when the road is straight and both rails are equally level, they will have no tendency to run in towards each other at their points of contact with the rails; and that therefore the naves and axles will be relieved from the stress upon them, pro-

duced by that tendency when the wheels are conical—and that while running upon a curve, the cone, by the relief or easement to motion afforded by the application and use of the joint, will follow its own natural course upon the track, and thus all lateral strain will be obviated; and in no part of the operations will there be any sliding, if the wheels be made after the proposed form. When the treads are entirely cylindrical the top of the inner rail should be elliptical to prevent chafing. But particular care should be taken to have the size of the treads of the two wheels, which are to be fastened upon the fore axle, which has no joint, exactly alike as to circumference as it is possible to make them—for if they be unequal the smaller will be thrown upon the foot of its cone as much as will be required to equalize the circumferences of the two wheels, and thereby wear away or indent the face of the cone and leave in it an abrupt shoulder. No caution of this kind will be necessary with respect to the wheels upon the hind axle which has a joint, as the joint alone obviates all the difficulty. This circumstance affords a choice, for equality of size, of two out of every four wheels, to fasten upon the fore axle.

From all these circumstances the liability of breaking the axles or wheels, or of working them loose, will be reduced to a mere trifle. Indeed the hind wheels may be sufficiently secured upon their axle without the use of either keys or pins, by merely staking them up upon the outside of their naves, if the holes within the naves be made to receive the axle, and the axle itself be made a little tapering, that is, smallest at the outside. Even the breaks will produce no stress upon the axle or the naves of the wheels upon the hind axle; as a break can have no influence upon the wheel opposite to that to which it is applied.

I have left several minor points unnoticed, not feeling myself competent to do full justice to the subject; but have submitted to the task thus far from the necessity of setting forth the causes which called for my improvement; and have contented myself with touching upon the most important points, in hopes that the so doing would lead to a full development of the subject by those more competent than myself.

Description of the Joint.

The joint alluded to in the foregoing observations may be constructed in the following manner: The axle intended for the after part of the carriage should be made in two parts, to meet in the centre between the wheels, their ends upset sufficiently to form a flanch, in the finish, say one quarter of an inch larger all round than the axle, and about the same in thickness; they should be turned exactly of a size, as well as the axles outside the flanch, as far as the coupling box is intended to reach, and their ends made somewhat concave below, or a little within the base of the flanches, to prevent any leverage over the centres of the axles, to press them apart. The coupling box should fit the axles exactly, and have a groove turned into its centre sufficiently deep, and wide, to receive the flanches when placed close up to each other. The coupling box may be closed over the axles by screw bolts, and nuts; or hoops may be shrunk upon it, or drove on, and then cut up a little outside of the hoops, to prevent their slipping off, the box being formed a little tapering each way from the centre, with a projecting ring, or rib round, larger than what is turned out of the inside, to receive the flanches of the axles. Care should be taken that the coupling should be so

strong that when fastened upon the axles the strength at the points of junction, shall be equal to any part of the axles. The box should be about one foot long. One axle can thus turn independently of the other, and yet be so well fitted that it shall have no loose play in any direction, except to turn round. It will be seen that when running upon a straight road, if all the wheels were of equal diameters, which, by the by, is very seldom the case, there would be no movement of the axles within the coupling; and when running upon a curve, if the axle was two inches and three quarters in diameters, and the wheels thirty-six, it would there be only in movement, as two and three quarters is to thirty-six, while the distance the coupling is from the wheels, affords so much power over the wheels by leverage, that but a very small degree of stress within the box can be brought to act upon it. Now let us consider the effect of the steering power afforded by the joint; the hind wheels must yield to the slightest impulse, the cones then upon the forward wheels can direct the course of the carriage with nearly as much ease as though they were running by themselves independent of the carriage, thus steering a direct course with the road, and at the same time effecting what was contemplated by the use of vibrating axles, while it avoids the dangers resulting therefrom, and this too, with wheels all made fast to the axles, and the axles themselves kept perfectly parallel to each other, and thereby avoiding all the injury and loss of property resulting from the application of loose wheels, and saves as much of the propelling power in their movements as is necessary to make the wheels slip upon the rails. I have no doubt that one set of wheels with this improvement, will out last two sets, as now used upon roads as serpentine as that of the Susquehanna, or Baltimore and Ohio. No article so trifling in itself in use at the present day upon railroads, can in any way compare with it in usefulness. I have used it under all speeds up to thirty-three miles per hour, and could never perceive a difference in its action.

Description of the Turning Platform, &c.

It may be useful and satisfactory to mention that I have also obtained a patent for a turning platform, to turn railroad or other carriages upon. The platform turns upon a ring projecting underneath, resting upon the tops of twelve conical rollers, while the rollers themselves run upon the top of a cast iron ring of the same size, both of which are near to the exterior of the platform, so that there is no liability of its rocking about; and there is no friction worth mentioning, arising from the superincumbent weight of the carriage and load; which is in practice a benefit about the same as to enlarge the centre of a pivot, so as to extend to the exterior without increasing the friction. The main object of my mode of construction, is to secure a permanent level surface with the adjoining track rails with an easy movement which a centre pivot will not long do; for when worn a trifle at the centre it will cause a great deviation at the exterior from a level; and the foundation is far more expensive, and difficult to keep in repair, to insure a perfectly horizontal position, when acted upon by the centre of the platform only. Those laid in the centre of Pratt street in the city of Baltimore are of the kind above described.

I have also two patents for a mode of turning corners of streets, wharves, &c. One of them is for the application of the *flanches* for that purpose. It is effected by the wheels upon the outer track of the curve's

running upon their flanches, while the wheels upon the inner track, run upon their treads, which are about two and three quarters inches less in diameter than the flanches. The other patent is for the railroad plates necessary to form the curvature; and also for grooved rails for any parts of the streets, made of wrought or cast iron, so constructed that no description of carriage can be injured in passing in any direction over them. They are indeed a real improvement to the common travel of the streets, at the same time less liable to injury of themselves, than those of any other I have seen.

I have also invented a wheel for locomotive use, and especially for passenger carriages, which is no doubt superior to that of any other known, for the following reasons: From its peculiar formation it may be made lighter by one half; than any other, and at the same time twice as strong. It is composed entirely of wrought iron, excepting the hub, and no bolts or rivets are used in its construction, a desideratum long desired, and sought for. It will unquestionably become the standard for all the purposes where speed and safety are essential.

The daily line of steam packets between Pittsburgh and Louisville, have, as we learn from the Pittsburgh Gazette of 23d inst., resumed their trips—leaving Pittsburgh every day, but Sunday, at 9 o'clock in the morning. The navigation of the Ohio for the smaller class of steamboats, has not, we believe, been suspended at all, this season—though usually in the months of July and August it is.

NAVIGATING THE ATLANTIC BY STEAM.—Our readers will find in our advertising columns this morning, notice of an intended application to our Legislature for the charter of a company to be denominated "The Atlantic Steam Packet Company," the object of which is to establish a line of steam packets between this port and Liverpool.

We are happy to hear that Captain Cobb one of our most enterprising packet Captains has charge of this enterprise, and that it is intended to build vessels of about twelve hundred tons burden with two engines each. But little doubt is entertained of accomplishing the passage out in about twelve days and the return passage in about fourteen! We have long been satisfied of the practicability of propelling our packets by steam, and we congratulate the public upon the reasonable prospects of accomplishing this great object in the course of the ensuing summer.—[Courier and Enquirer.]

THE TWO BOAT RACES afforded yesterday a warm interest both on land and water. The first contest was easily won by the Quebec Amateurs' boat, the Water Witch, (Greenock built, by Nicol,) rowed by Messrs. Vaughan, Rogers, Young and Ferguson, and steered by Mr. C. Gethings, beating the Musicianer, a gig of the Pique, rowed by four Officers and steered by the Master. The boats rowed from the anchorage of the Pique to a boat moored on the Beauport shoals, the distance, going and returning, being between four and five miles. The second contest was, however, the one which excited the greatest interest, in which the same boats were rowed by four seamen of the Pique, and four of the Quarter Master General's boat crew. Both Boats kept nearly together in the whole distance, to their rounding the moored boat, when the Musicianer of the Pique shot ahead, and came in about 100 yards before the Witch, which had suffered in the heavy swell and contrary wind, and reached the frigate in a very damaged state.

The Pique was filled with citizens, and His Excellency Lord Gosford, Sir George Gipps, and Lady Gipps, together with a large number of military, were also present. The Pique's boat was received by hearty cheers as she passed H. M. ships President and Forte, and the whole crew of the Pique and all the visitors shouted with joy on her coming in first. The Officer in command had kept boats moving between the King's Wharf and the Pique to convey any one wishing to get on board, and the tables were laid in all the rooms,

and an excellent collation and wines were served to them. The visitors were afterwards landed by the boats, all highly delighted with the polite reception they had experienced.—[Quebec Gazette.]

The following address to the Mechanics of Easton, Pa., will be found well worthy of a second, aye, of an oft-repeated perusal. It is in a style which every mechanic and every apprentice can understand; and it states facts which it is important for every practical man to know. It refers to individuals who have, by the force of talents, industry, and perseverance, arisen from obscurity and indigence to the most honorable stations in the history of the country and of the world; to men who have conferred benefits upon mankind beyond the power of man to estimate and appreciate; and, what is of more importance, it indicates the path by which they arrived at that station, and, therefore, the course for others to pursue who would become, like Rittenhouse, Fulton, and Evans, the benefactors of mankind.

An Address to the Mechanics of Easton, Pennsylvania, delivered at their request, by JAMES MADISON PORTER, on the 4th of July, 1835.

In comparing man with the rest of the animated part of creation, it will be found that his superiority consists not in his animal powers or capacities. He has neither the strength nor the speed that characterize the greater portion of the brute creation, and enable them successfully to attack or defend. He is, of all animals, the most helpless in infancy, and the least capable of enduring the changes of the seasons and the inclemencies of the elements. His imbecility and incapacity to take care of himself is continued through a long infancy, and even in the maturity and vigor of manhood, his physical powers are of an inferior order. Whence, then, does the superiority of man arise? It is from the mind, the immaterial mind, which enables him to lord it over the rest of creation, and make them subservient to his wants or caprices. Well then might the poet say,

"I would be measured by my soul,
The mind's the standard of the man."

Philosophers have been much divided on the subject of the powers of the mind—whether the mind is a mere capacity for improvement which requires something to evolve it, or whether talents are innate. It matters, however, but little which is right. In either case the improvement of the mental faculties, by reading and study, develops its capacities and enables it to bring its resources into practical use.

In considering the subject to which your attention is now necessarily called, it will be attempted, in some slight degree, to trace the influence of mental development in relation to the mechanic arts—which at this day must be considered the most beneficial, practical illustration of natural philosophy, as applied to the ordinary useful purposes of life.

In the infant ages of mankind, the mechanic arts were little practised. Man's first lot was probably in the mild regions of the equator, where the great luxuriance in the products of nature, and the little occasion there existed for the erection of buildings to shelter him from the inclemency of the weather, or the procur-

ing of much apparel for the same purposes, were illy calculated to elicit the mechanical powers or principles lying like an unsprouted germ in his mind. Necessity has ever been the mother of invention, and thus we see that ere this globe was visited by that deluge which swept all the human family, but the favored household of Noah, from its surface, which had been overspread by wickedness, the necessities, the conveniences, or the curiosity of man, had induced considerable progress in the mechanic arts. We learn from the word of sacred truth, that in a few generations from the great progenitor of mankind, and perhaps even while he yet lived, cities were builded, musical instruments constructed, and mechanism in metals carried on. Cain built the city of Enoch—Jabal was the father of such as dwelt in tents and have cattle—Jubal of such as handled the harp and organ—and Tubal-cain an instructor of artificers in brass and iron.

At the period of the deluge, something over sixteen centuries and a half from the creation, there is no doubt that considerable perfection had been attained in many of the useful and practical branches of mechanism. The ark itself was perhaps one of the best specimens of art for the purpose for which it was intended, that ever was produced, for the great Jehovah himself condescended to be the instructor of its immediate maker; and wherever he has set an example of mechanical skill or arrangement, every thing merely human stands back abashed. Subsequent to the deluge which destroyed the earth that *then was*, and gave man this *new earth* which we now inhabit, and which exhibits so many geological proofs of the existence of that deluge, and the accuracy of the Mosaic account of the creation and early history of the globe, the mechanic arts were practised and extended, as the increase of the human family spread them abroad on the earth, as the extent of light and knowledge, and consequently the refinements of life, prevailed.

It would be out of place here to attempt a history in detail of their progress in the various arts and sciences. Much pains and labor have been bestowed on this subject to unbosom from the monuments or rubbish of ages the claims of nations and of people to the rank of pioneers in the works of art.

The cities of Babylon and Nineveh were built some 250 years before the time at which the best authenticated accounts fix the commencement of the first of the pyramids of Egypt; and the confusion of tongues at the attempted erection of the tower of Babel must have preceded the commencement of the first pyramid between 50 and 100 years.

The erection of the first of these pyramids is ascribed to Apachnes, the third of the race of shepherd Kings of Egypt, about 2,095 years previous to the birth of our Saviour, and some years previous to the time when the patriarch Abraham visited Egypt; and it is evident

from the skill exhibited in their structure, the immense masses of stone of which they were composed, the order and system with which they were planned and executed, as a consequence from which, they have endured, in defiance of time and the elements, until the history of the men and nations that reared them has been nearly lost to the world, and only known by the unravelling of the hieroglyphics which abound in them, that the principles and practice of permanent and durable architecture had then attained to considerable perfection, and that much of mechanical skill must have been used in removing the material from the quarry; in conveying it to and depositing it on the building, and in dressing and finishing each block for its appropriate place.

It was not, however, in architecture alone, that the advance in the mechanic arts was exhibited. From the rude coverings of skins, the first garments worn by the ante-diluvian world, subsequent to the expulsion, the ingenuity of mankind had invented the construction of fabrics as well for garments as for tents. Subsequent to the deluge, and as far back as 1850 odd years before the Christian era, when Eliezer of Damascus was sent by Abraham to the land of his brethren to obtain a wife for his son Isaac, he takes with him golden earrings and bracelets, as presents for the intended bride, and we find them having pitchers and other utensils of convenience in housekeeping—and the bride, when she met her future husband, was veiled.

The making of bricks, we have authentic accounts, was in use more than 2000 years before the Christian era. The erections of the buildings before mentioned—of the ark by the Israelites in their journey—of the various heathen temples of Egypt, Greece, and Rome—the splendid temple by Solomon—and the Colossus at Rhodes, with other instances among other nations, until the overthrow of the Roman Republic, and the establishment of the Empire, show, that at and before the Christian era, great progress had been made in various arts, tending to minister to the necessities and luxuries of mankind.

The Grecian models of architecture have never been excelled in elegance. The Greeks understood the laws of proportion in the construction of their edifices, in an especial manner. Yet there were many principles in natural philosophy little, if at all, known to them. The principles of hydraulics, which are not yet fully known, were then even less perfectly understood. They knew not that water would rise to its own level; and hence, instead of the simple modern resort to conduit pipes, they incurred immense expenses in rearing arch piled upon arch, to construct their aqueducts to carry large supplies of water over depressed spots of ground.*

Archimedes flourished about 250 years

* Pliny informs us that water can be raised by tubes of lead, and the excavations at Pompeii would show that, at and before the reign of the Emperor

before the birth of our Saviour. Whatever might have been known in practice previously, there was little of the theory of mechanics philosophically understood. He has the credit of discovering the exact operation and power of the screw, the inclined plane, the pulley, and the lever—of the latter of which he was so enamored as to say to the second Hiero, King of Syracuse, "Give me a place to stand on, and I will move the world." And yet it would seem that these, or some at least of these powers, must have been in use among the Egyptians some fifteen to eighteen hundred years before, or how could the immense masses of granite and other stone forming the walls, the columns, the colossal figures, and other monuments of ancient Memphis, Abydos, Antæopolis, and Thebes, ever have been raised from their natural beds, and transported to the temples, the grottos, the sepulchres and other edifices which they, in part, composed or decorated?

From the days of Archimedes onward, the science of mechanics was taught in the schools. The philosopher and mathematician searched further into the theory, whilst the result of their investigations was put in use by practical artisans, and submitted to the unerring test of experience. In the dark ages, which succeeded, as the Roman Empire declined and fell, and ignorance and superstition wrapped the world in their sable habiliments, there was little of improvement in the mechanical branches of science, and little of practice, except in the branch of architecture, and those domestic arts with which the world could not dispense.

It was not until towards the close of the 16th century that the rapid development of the physical sciences commenced; and there is not perhaps on record in history any more extraordinary contrast than that of the slow and limited progress of those sciences, from the early ages of mankind up to that time, and the rapidity with which they have since been enlarged and spread abroad.

Until the art of printing was discovered and put in practice, the additions to the stock of knowledge on all subjects were few and far between. The mass of mankind were little interested in them, and if the observations made and the knowledge acquired by a few enquiring minds in any age were not lost in oblivion, they were not spread abroad. It seemed to be a part of the philosophy of the ancient and the monastic school to keep their knowledge wrapped up in learned mystery, as a thing too sacred for common observation. It was not then supposed that the sciences could exist in, and be illustrated by, common objects, and have a place in the Mechanic Arts. But, no doubt, many a bold and adventurous mind did push its enquiries beyond the ordinary routine, and taking its flight into the regions of speculation, made

Tubs, baths and fountains were thus supplied. But even among the Romans they knew no material of sufficient tenacity for large supplies of water, if they indeed supposed that conduit pipes could be used on so large a scale.

valuable observations, which failed to benefit mankind, because they perished without a record. Towards the middle of the 16th century, this art of printing, of all others the most valuable to mankind, was discovered, and by the commencement of the 16th century, had come into pretty general use, and enabled every one to make his ideas known to the world. On this subject it has been well said: "The moment it took place, the sparks of information, from time to time, struck out, instead of glimmering for a moment and dying away in oblivion, began to accumulate into a genial glow, and the flame was at length kindled which was speedily to acquire the strength and rapid spread of a conflagration. There was an universal excitement in the minds of men throughout Europe produced by the first outbreak of modern science, but even the most sanguine anticipators could scarcely have looked forward to that steady, unintermitted progress which it has since maintained, nor to that succession of great discoveries which has kept up the interest of the first impulse still vigorous and undiminished. It may truly be said, that there is scarcely a single branch of physical enquiry which is either stationary or which has not been for many years past in a constant state of advance, and in which the progress is not at this moment going on with accelerated rapidity."

There is an active principle in the human mind which is elicited by excitement, but which, unmoved, is inert. As in water, so in mind. The stagnant pool soon becomes putrescent. The turbid and agitated ocean is healthful and pure. 'Tis the action of the waters that secures their purity. The diffusion of knowledge has tended to the increase of civilization and wealth. These, in turn, have given opportunity to the diffusion of taste for intellectual pursuits; and to the increased and enlarged opportunities afforded from the 16th century to the present time, we must mainly attribute the great extension of knowledge in every thing connected with science and the useful arts. Mind has been brought into competition and collision with mind. Scientific truths have been developed and tested, and brought to bear on the common affairs and business of life.

These results have been attained in all the arts and business of man. The age in which we live may emphatically, beyond all others, be said to be the age of mechanics; and much as we have progressed, we must not flatter ourselves that we have attained perfection in any of them. As much as we are beyond those who preceded us, in all probability, we shall fall behind those who succeed us. The impulse is given: the mind of man is pursuing the investigation of the useful—the knowledge of one age is transmitted to the next, and so we may increase upon increase until, the command will go forth that "Time shall be no more." Nor will the increase and development of our faculties then cease.

Adam Smith, in his "Wealth of Na-

tions," describes a philosopher as a person whose trade it is to do nothing, and speculate on every thing. If Adam Smith had lived at this day, he probably would reverse this definition; for the great, vast, and most beneficial results which have been attained, in increasing the wealth of nations, of which he wrote much and perhaps knew but little, have been thus attained by the labors of philosophers, systematically applying the principles of true science to the improvement of the Mechanic Arts. It is principles which are the objects of enquiry to the natural philosopher, and the elucidation of a truth may be completely accomplished by the most familiar and common-place facts. In truth, philosophy in modern days has descended from its stilts, and mixing in the common affairs and business of life, is, by the elucidation of its principles in a familiar manner, become the common acquaintance of all who reflect. The observation of the fall of an apple, led the immortal Newton to the discovery of gravitation, and other things, equally common and apparently trivial, have led to other important results. To the natural philosopher there is no natural object unimportant. From the last of Nature's works, the greatest lessons may be learned. The scientific mind applies principles readily to every incident as it occurs, and finds improvement and delight in the pursuit. He finds

"Tongues in trees—books in the running brooks—
Sermons in stones, and good in every thing."

"Accustomed," says an able writer, "to trace the operations of general causes and the exemplification of general laws, in circumstances where the uninformed and unenquiring eye perceives neither novelty nor beauty, he walks in the midst of wonders. Every object which falls in his way elucidates some principle—affords some instruction, and impresses him with a sense of harmony and order. Nor is it a mere passive pleasure that is thus communicated. A thousand questions are continually arising in his mind—a thousand subjects of enquiry presenting themselves which keep his faculties in constant exercise, and his thoughts perpetually on the wing, so that lassitude is excluded from his life; and that craving after artificial excitement and dissipation of mind, which leads so many into frivolous, unworthy, and destructive pursuits, is altogether eradicated from his bosom."

It may be asked, "What has all this to do with the present occasion?" The answer is, that every mechanic art is the reduction to practice of scientific principles. The carpenter or mason who lays out his building by the use of the base 6, the perpendicular 8, and the hypotenuse 10, or corresponding numbers, has the demonstration that he is laying out the building at right angles, in the 47th proposition of the first book of Euclid's elements;—the sum of the squares of the base and perpendicular being equal to the square of the hypotenuse. They, too, will more fully understand how to spring their arches and truss their girders,

by understanding the principles upon which the means used accomplish the ends intended, than in the mere copying, without reflection, the work of others. For although a theorist, without practice, would, in all probability, erect but a sorry edifice, yet where a knowledge of principles is combined with practice, the advantage is apparent to all. The tanner, in preparing his leather, is a chemist in practice—so, too, the saddler and shoemaker, even in the preparation of their wax ends, in giving proper consistency and tenacity to the materials used, independent of the philosophical principles in the shapes and forms of their work, and its adaptation to its intended purposes.

It were endless, however, to enumerate all the examples of this truth in the trades and occupations here assembled. It exists in them all, and the instances I have cited are perhaps the least striking of any that might be given.

What was it that raised David Rittenhouse, a native of Pennsylvania, above the ordinary clockmakers of the country in which he lived, and placed his name high among the learned of the world? What was it that raised Brindley, from an apprentice to a Derbyshire millwright, to one of the greatest engineers and mechanics which the world ever produced? Neither of these great men originally received more than the rudiments of an English education. It was the application of their giant minds to the study of principles that placed the one at the head of the philosophers and astronomers of his time, and made the other the companion and the adviser of the King, Lords and Commons of his native land, so that scarcely any public work was entered upon without his superintendence and advice.

And what too placed Fulton, another son of Pennsylvania, so high in the estimation of the world?—It was not his birth. It was not this world's wealth. It was the cultivation of his mighty intellect, which, but for his *reading and reflection*, like the diamond in the mine, might have lain obscure, unnoticed and unknown.

Oliver Evans, of Philadelphia, in his day, and that too within the recollection of him who now addresses you, was esteemed a crack-brained enthusiast, when he avowed that the child was then born, who by the force of steam should travel from Washington to New-York in a day.

His language was, "People will travel in stages moved by steam from one city to another, almost as fast as birds fly—fifteen or twenty miles an hour." "A carriage will set out from Washington in the morning, the passengers will breakfast at Baltimore, dine at Philadelphia, and sup at New-York; the same day."

The first of these assertions has been accomplished, and the second will be, before we are three years older. Yet this man, when in 1787, he petitioned the legislature of Pennsylvania for encouragement and assistance, to test the possibility of using steam as a motive power for wagons or carriages, was considered *insane*.

(To be concluded in our next.)

Then
import
the hop
item in
than an
arrives
other
pense,
much
scarcel
we can
milk h
as we
of him
his life
at sho
mestic
animal
parts o
toms v
they r
and th
pense
against
To an
who kn
be diff
strong
boned,
mens,
streets
from s
they su
their h
and fro
a mom

I can
the ex
and ill
not on
points
value,
sufferi
former
mitted
of ever
eating

Have
with s
me ex
ment's
comm
at, or
prover
every
growt
that t
confid
tension
witho

Im
Havin
for a
Chin
conve
inspe
proce
Th
sow,
Th
obser
first

AGRICULTURE, &c.

There is no species of stock of greater importance to the agricultural interest than the hog. His flesh is the most important item in animal food; he is far more prolific than any other large domestic animal; he arrives at maturity in less time than any other, except the sheep; with half the expense, in proportion to his value; and is much less liable to disease, indeed he can scarcely be considered liable at all. And if we cannot ride him as we do the horse, milk him like the cow, or wear his clothing as we do that of the sheep, still every part of him is valuable; and the short period of his life returns us the pay for his keeping at shorter credit than any other large domestic animal. And yet there is no other animal so completely neglected. In many parts of the country, a stranger to our customs would suppose, from the treatment they receive, that they were wild animals, and that the people were at considerable expense to maintain dogs, not merely to guard against them, but to worry and destroy them. To any person of a cultivated mind, and who knows the value of the swine, it would be difficult to tell which feeling would be strongest, disgust to see the lean, raw-boned, slab-sided, and long-legged specimens, with long lop ears, which infest our streets, seeking something to keep them from starving; or abhorrence of the cruelty they suffer, in having their ears torn from their heads, by dogs trained to the business; and from whose teeth they are scarcely ever a moment secure.

I cannot help thinking the man, who sets the example of reforming this horrid neglect and ill treatment of so valuable an animal, not only by improving all its improvable points, and thereby greatly enhancing its value, but by so doing, rescuing the poor suffering animal from a state of incessant torment during the short period it is permitted to live, deserves at least the thanks of every person, who loves profit and good eating, or who hates cruelty.

Having been long and deeply impressed with such a view of the subject, it has given me extreme pleasure to examine Mr. Bement's pigs, referred to in the following communication, as I think he has arrived at, or very near, the *ne plus ultra* of improvement. Their form is improved in every point. They are small eaters, their growth is rapid, and their appearance shows that their pork must be delicious. I am confident no agriculturist, who has any pretensions to common sense, could see them without being anxious to obtain the breed.

S. BLYDENBURGH.



[From the Cultivator.]

IMPROVED CHINA HOGS.—Mr. Buel, Sir: Having had frequent applications, by letter, for a description of my improved breed of China hogs, I know of no better method of conveying a correct idea, unless by personal inspection, than by a likeness, which I have procured, and accompanies this.

The drawing was taken from a young sow, 9 months old, when in high condition.

This superior breed of swine, as I have observed in a former communication, was first introduced here by the late Christopher

Dunn, Esq. Some ten or twelve years since, when passing through Princeton or New-Brunswick, N. J., in the stage, his sagacious eye was attracted by a beautiful sow, with her litter of pigs, running in the street. Delighted with their appearance, he was determined to possess some of them if possible. He accordingly applied to the driver of the stage to procure a pair of them for him. As an inducement, and to insure success, he offered him the liberal price of twenty dollars, for a male and female, although only eight weeks old, on their delivery to a certain house in New-York. They were of course procured and delivered, and from these two have sprung my "Improved China Hogs."

Their color is various, some white, black and white spotted, and others blue and white. They are longer in body than the pure China breed. Upright or mouse-eared, small head and legs, broad on the back, round bodied, and hams well let down. Skin thin—flesh delicate and fine flavored.

They are easy keepers, and of course small consumers, quiet and peaceable in disposition, seldom roaming or committing depredations; keep in good condition on grass only.

They are not remarkable for size, seldom attaining more than 200 to 250 pounds, although instances have occurred where they have been made to reach 350! Therefore, they cannot, in their pure state, be called the "farmer's hog," but their great value is in crossing with the common hog of the country. A very good hog may be obtained by a cross with your *land shads*,—your long legged, long nosed, big-boned, thin backed, slab-sided, hungry, ravenous, roaming tormentors, that will run squeaking about the yard with an ear of corn in their mouths.

To give you some idea in what estimation they are held by persons who have procured them of me, I have taken the liberty of making the following extracts from some of their letters.

"My Chinas, the true Bement breed, exceed all praise; you never saw their equals. I have a young boar in the pen, nine months old, that I will show against the United States, out of the boar and sow I had of you, both of which I still keep. Nothing can compare with them in this country, and I honestly assure you, I never saw their equals any where, for all needful qualities in the hog."

"Dear sir—I have the satisfaction of saying to you, that I got my little Berkshire and China home in good order, and doing finely, and are much admired by every person who sees them. Should I meet with success in rearing from this pair, shall not be able to furnish any thing like the quantity spoken for."

In another letter a valuable correspondent says—"The hogs I had of you have done admirably, and I am getting a fine stock of them; but on the whole, I like the full bred improved China better than the cross, and I am getting back into the pure blood. The young sows, of which I have three from the white (Hosack) boar you had, have had pigs from the old boar, but they are not true enough in blood, appearance, and shape, to suit me; whereas the mother, who is the true China, brings the pigs from the old boar, both in color, shape, size and every thing, as if they were cast in the same mould,—and that is what I like,—uniformity of appearance, even in hogs, and this boar, let me tell you, has the admiration of all who have seen him, as the best and most perfect hog in the country. These hogs, 'tis true, are not large, they are indeed rather small; but they are the easiest kept of any according to their size, that I ever saw, and so far as I have yet seen, I prefer them,

even to the Bedfords, or any I know. The Bedfords are good, but they are too heavy headed, long legged, and great eaters, to suit me altogether. The quiet, peaceable dispositions of the Chinas, like that of the short horn cattle, is a great item, I assure you, in a farmer's account."

I might fill a page with similar extracts, but I think it unnecessary, for I shall not be able to supply all my orders until next spring.

In the next No. I propose to furnish you with a portrait of one of the Berkshire breed, of which I am now in possession, imported by S. Hawes, in 1832.

C. N. BEMENT.

Albany, Sept. 1, 1835.

[From the Cultivator.]

ON THE UTILITY AND BEST METHOD OF COOKING FOOD FOR DOMESTIC ANIMALS.—This subject has engaged the attention of practical men in Europe and in this country for many years, and it is a branch of rural economy at all times worthy the careful investigation of the farmer. The Highland Society of Scotland have, in a particular manner, directed the public attention to the comparative advantages of feeding farm-stock with prepared or unprepared food, and have, by liberal premiums, induced numerous experiments to be accurately made, and elicited much valuable information. The conclusions which have been drawn from these and other experiments, seem to be,—

1. That a great saving, some say one half or more, is effected by cutting the dry fodder for horses and neat cattle, and feeding it with their provender or grain, in two or three daily messes, in mangers. Not that the food is thereby enhanced in its inherent properties, but that given in this way it all tells—is all consumed, all digested, all converted into nutriment. There is comparatively none wasted, or voided, without having benefitted the animal. In the ordinary mode of feeding in racks, yards, and in open fields at stacks, it is well known that much is lost, from the difficulty of masticating uncut hay, straw and stalks, and from its being trodden under the feet of animals and spoilt. Much labor is besides saved to the animal, as cut food requires less mastication, and the animal enjoys a longer period of rest.

2. That grain and pulse, as cattle food, is enhanced in value by being ground or bruised before it is fed out, so much as to warrant the expense of sending it to mill, and the deduction of toll. Indian corn, oats, rye, and other grain, given to farm animals in a dry, unbroken state, it must have been observed by every one, particularly when the animal is high fed, are often voided in a half or wholly undigested state, and are virtually lost. This does not happen when the grain has been ground.

3. That although roots, as ruta бага, mangel wurzel and potatoes, are improved as fattening materials for neat cattle, by cooking, the advantages hardly counterbalance the extra expense of labor and fuel.

4. That for working horses, cooking the roots we have enumerated, and feeding them with cut hay and straw, is of manifest advantage; and that thus fed, they supersede the necessity of grain.

5. That in fattening hogs, there is decided economy in grinding and cooking the food. The experiments upon this subject are many and conclusive. Some estimate the saving at one half the quantity of food. Taking into account the various materials on a farm, which may thus be turned to account, we are satisfied that one half the cost

of making pork may in this way be saved. Swine are voracious animals, and will eat more than their stomachs can digest, unless assisted by the cooking process. There are upon the farm many refuse matters, as pumpkins, squashes, small potatoes, early and defective apples and apple pomace, which are of little value, except as hog food, but which, if well husbanded, cooked and mixed with ground provender, contribute essentially to cheapen our pork. It has been questioned whether the articles we have enumerated are nutritive to pigs, when given in their raw state; while all admit, who have made the experiment, that they are highly so when cooked. Cooking undoubtedly adds to their nutritive properties, as it does to the nutritive properties of Indian meal.

Before we offer our views of the most economical mode of cooking food for hogs, and of the apparatus to be employed, we beg leave to submit the plan of a hog pen or piggery, which, with some modifications, is the model of one we examined at the Shaker village in Niskeuna.

Fig. 1.

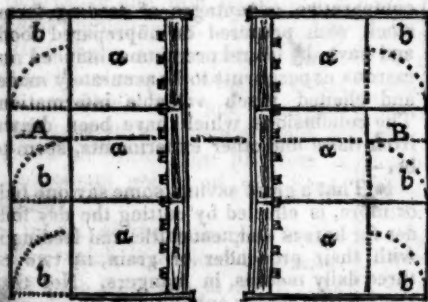


Fig. 1, exhibits a ground plan of the building, showing a gangway in the centre, with a range of pens on each side. The breadth is 26 feet, and the length may be adapted to the convenience of the builder. The pens are six feet broad and ten feet deep, with a cross partition four feet from the rear, and a four feet door, which is used to close the passage between the front department, (a) and the department b, or to extend the partition between the pens. The different uses of the doors are shown on the two sides in the cut. The pens are calculated for four hogs each, and the section here exhibited will therefore accommodate 24. When the pens require to be cleaned, the doors are shut into the cross partitions, as at A, so that the rear presents an uninterrupted passage; the hogs being confined in a; and as soon as the pens are cleaned, these doors are thrown back as at B. The troughs are embraced in the gangway.

Fig. 2, shows a cross section along the dotted line A B. The partitions are three and a half feet high, the posts eleven feet, giving seven feet to the basement, and four to the upper story, below the roof. The position of the feeding troughs is here shown. They are provided with lids, hung with stout hinges above, and may be let down so as to exclude the hogs from the troughs while they are being cleaned or replenished with food, or raised up, at pleasure, as shown in this section. Each lid is provided with an iron bolt, (fig. 4,) which works in staples, and confines the lid in the position required. This section also shows the slope of the floor in b b, so constructed that the urine may drain off. The dotted lines represent the size of the building, when, instead of the apartment b b, it is wished to let the hogs run in an open yard. For small farmeries, a single range of pens and the gangway may suffice. The loft serves as a store room for hog food, &c.

Fig. 2.

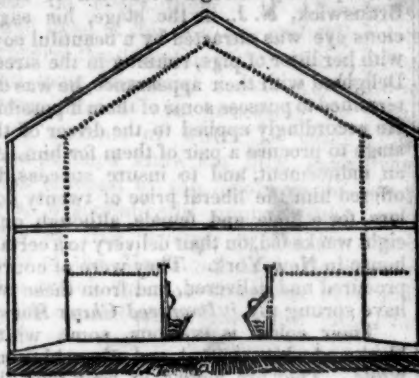


Fig. 3.



Fig. 3, is a section along C D, showing the studs that prevent the interference of the hogs while eating.

The boiling or steaming room is in one end of the building, and communicates with the passage and the loft.

The peculiarities, or rather the advantages of this piggery, consist in the facility which is afforded of cleaning the pens and the troughs, and of depositing the food in the latter, without being incommode by the hogs, and in preventing the hogs worrying each other.

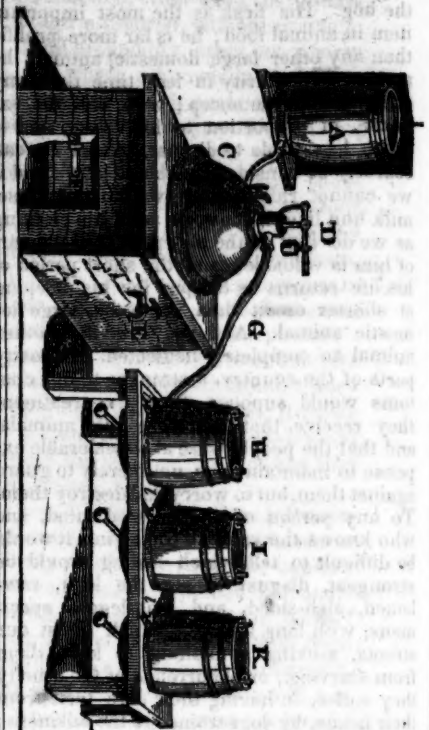
We shall now exhibit the model of a steaming apparatus, calculated for a large establishment. We have shown the plan to an intelligent master in one of our furnaces, who estimates the cost of boiler, pipes, and cocks, at \$50.

"A is a barrel or other vessel for containing water and supplying it to the boiler C. D is a safety valve. At the upper part of the boiler at C are placed two tubes, with stop cocks. One of these tubes terminates near the bottom of the boiler. Upon the stop cock being turned, water should always issue from this tube. When, therefore, steam issues from it, and not water, this indicates that the water is too much boiled away, and consequently that there is a deficiency of water in the boiler. The other tube terminates within the boiler, near the top. Upon the stop cock being turned, therefore, steam ought always to issue forth. But should water in place of steam come out, then it will appear that the boiler is too full of water. In this manner the attendant, by turning either stop cock, ascertains whether there is a deficiency or excess of water in the boiler. The quantity of water could indeed be regulated by other means; but that described will be found sufficient in practice. F is the furnace, and E is a pipe with a stop cock communicating with the boiler. When it is wished to obtain hot water, it is obtained by this pipe. A pipe G communicates with the barrels H, I, K, and conveys the steam to them; and in these is placed the food to be steamed. By means of the stop cocks L, L, L, the communication can be cut off with any of the barrels, so that the steam may be admitted to one barrel or two barrels, or three, as may be wished. The barrels in the figure are three, but the number may be extended. Each barrel has a moveable lid, which is kept down by screws, and a sliding board below, by which the food, when ready, is withdrawn. The barrels are raised on a frame, so that a wheel barrow or vat may be placed below, and the food at once emptied into it."

"By means of an apparatus of this kind, roots and other parts of plants may be

steamed in a convenient and economical manner."

[Fig. 5.]



The relative advantages of steaming and boiling will very much depend, we suspect, on the extent of the establishment. We have tried both, though our steamer was imperfect; and have come to the conclusion, that when the number of hogs to be supplied does not exceed 15 or 20, boiling is preferable,—as with a good boiler, of the capacity of 30 gallons, from 12 to 16 barrels of food may be easily cooked in a day. But much depends on the judicious setting of the boiler, so that it may receive the whole advantage of the fire. For this purpose the brick work should be made to conform to the shape of the kettle, leaving a space of three or four inches between them, until it reaches nearly the top of the kettle, when a tier of brick set edgewise is projected for the flange of the boiler to rest upon; and the bottom of the fire flue should be above the bottom of the kettle, or about parallel with the commencement of the slope which rounds its bottom. By this means, the flame is thrown upon the sides and bottom, and in a manner that the whole boiler is collapsed with it on its passage to the smoke flue; and the brick work being heated constantly refracts back its heat upon the boiler. A tight cover should be laid over the cooking food, to prevent the free escape of the steam, by partially confining which, the cooking process is greatly facilitated.

There should be appended to the hog house an open yard, for straw, litter, weeds, &c., which the hogs, during summer, will work into manure, and into which the dung is thrown from the pen.

Hogs are subject to various diseases, particularly if shut up in a close pen, during the time of fattening, which are often suddenly fatal. Prevention is here easier than cure; and many farmers prefer giving their hogs yard room, where they can root in the earth, which is deemed a preventive. Others give them occasionally rotten wood, charcoal, sulphur, antimony or madder, all which are considered as aperients, cleansers or alteratives, and consequently as conducing to health. Salt is all important, and should be habitually blended with their cooked food.

NEW-YORK, AMERICAN.

SEPTEMBER 26—OCTOBER 2, 1835.

LITERARY NOTICES.

THE GIFT, a Christmas and New Years' present, 1836, edited by Miss LESLIE: Philadelphia, E. L. CAREY & A. HART.—A new Annual, very prettily got up, as the phrase is, in externals and about an average in intellectuals. The "unpretending Mr. Hudson," by Miss Sedgewick, is very good. The Serenade, by the Editor, very so-so. The sketch of an unwritten drama, of Lord Byron's, communicated by Washington Irving, is worth copying.

AN UNWRITTEN DRAMA OF LORD BYRON.

By Washington Irving.

The reading world has, I apprehend, by this time, become possessed of nearly every scrap of poetry and romance written by Lord Byron. It may be pleasant, however, to know something of a dramatic poem, which he did not write, but which he projected—and this is the story.

The hero, whom we will call Alfonso, is a Spanish nobleman, just entering upon the career of life. His passions, from early and unrestrained indulgence, here become impetuous and ungovernable, and he follows their impulse with a wild and heedless disregard of consequences.

Soon after his entrance into the world, he finds himself followed, occasionally, in public places, by a person masked and muffled up, so as to conceal both countenance and figure. He at first pays but little attention to the circumstance, considering the stranger some idle or impertinent lounge about society. By degrees, however, the frequent intrusion of this silent and observant follower, becomes extremely irksome. The mystery, too, which envelops him, heightens the annoyance. Alfonso is unable to identify him with any of his acquaintance, his name, his country, his place of abode, is all unknown, and it is impossible even to conjecture his motives, for his singular espionage. It is carried, by degrees, to such lengths, that he becomes, as it were, Alfonso's shadow, his second self. Not only the private actions of the latter passed under the scrutiny of this officious monitor, but his most secret thoughts seem known to him. Speak of him, he stands by his side; think of him, he feels his presence, though invisible, weigh upon his spirits, like a troubled atmosphere, waking or sleeping, Alfonso has him in thought or in view. He crosses his path at every turn; like the demon in Faust, he intrudes on his solitude. He follows him in the crowded street, or in the brilliant saloon; thwarting his schemes, and marring all his intrigues of love or ambition. In the giddy mazes of the dance, in which Alfonso is addressing his fair partner with the honeyed words of seduction, he sees the stranger pass like a shadow before him—a voice, like the voice of his own soul, whispers in his ear—the words of seduction die from his lips—he no longer hears the music of the dance.

The hero of the drama becomes abstracted and gloomy. Youth, health, power, wealth, all that promised to give zest to life, have lost their charm. The sweetest cup of pleasure becomes poison to him; existence is a burthen. To add to his despair, he doubts the fidelity of the fair, but frail object of his affection, and suspects the unknown to have supplanted him in her thoughts.

Alfonso now thirsts only for vengeance, but the mysterious stranger eludes his pursuit, and his emissaries in vain endeavor to discover his retreat. At length he succeeds in tracing him to the house of his mistress, and attacks him with the fury of frantic jealousy, taxes him with his wrongs, and demands satisfaction. They fight, his rival scarcely defends himself, at the first thrust, he receives the sword of Alfonso in his bosom; and in falling exclaims, "are you satisfied?"

The mask and mantle of the unknown drop off, and Alfonso discovers his own image—the spectre of himself—he dies with horror.

The spectre is an allegorical being, the personification of conscience, or the passions.

Such was the general plan of a poem which Lord Byron had in mind several years since; and which he communicated, in conversation to Captain Medwin, from whom I received it nearly in the foregoing words. The idea was taken from a Spanish play, called the Embozado, or Encapotado, which

signifies a person muffled or disguised, and was furnished to Byron by Shelley, as his Lordship did not understand Spanish. The foregoing plan is evidently vague and immature, and would doubtless have undergone many modifications in the progress of being brought out. Lord Byron intended to treat it in the genuine spirit of Goethe, as displayed in his wild and extraordinary drama of Faust, and expected to make it very effective. It certainly afforded ample scope for the mystic, the misanthropic, the metaphysical and the romantic, in which he so much delighted, and would have given him an opportunity of interweaving much of his own peculiar feelings and experience.

How far the plan he had in view agreed with the Spanish original, I have not been able to ascertain. The latter was said to be by Calderon; but it is not to be found in any edition of his works that I have ever seen. My curiosity being awakened on the subject, I made diligent inquiry, while in Spain, for the play in question, but it was not to be met with, in any of the public libraries, or private collections; nor could the booksellers give me any information about it. Some of the most learned and indefatigable collectors of Spanish literature informed me that a play of that kind, called the Embozado of Cordova, was somewhere in existence, but that they had never seen it. The foregoing sketch of the plot may hereafter suggest a rich theme to a poet or dramatist of the Byron school.

PARLEY'S MAGAZINE, vols. 1 and 2, and parts 9 and 10: Boston, SAMUEL COLMAN, successor to Lilly, Wain & Co. N. Y.: COLLINS & HANNAY, and J. P. CALLENDER.—We have here a new edition revised and improved of this amusing and instructive miscellany for children. It is now published in numbers very prettily put up, which together make an annual volume of which the cost is only one dollar! Among the recent improvements is that of introducing short pieces of music, furnished for the work by Messrs. Mason & Webb, professors in the Boston Academy of Music.

The general aim of this Magazine, by previous notices, our readers are apprised, is to make a miscellany for children, which shall be attractive at once, instructive and useful—avoiding controversial subjects, and relying as much as possible on original matter.

The wood-cuts are very well done—one, which is the frontispiece of part 10, struck us particularly. It represents blind children making baskets—and is very natural and spirited. We copy, as a fair specimen of the manner in which subjects generally are treated, the notice referring to this cut.

SCHOOL FOR THE BLIND.—Perhaps some of my readers do not even know that there is an Institution for the Blind in Boston. If there are any such, I think they will be very glad to hear about it. It is situated in Pearl street. The buildings was formerly a dwellinghouse; and was given by the owner, on purpose for a schoolhouse and workhouse for the blind. On the side of it towards the street, you may see, in large letters, the following:

INSTITUTION
FOR THE BLIND.
THIS EDIFICE
PRESENTED BY
THOMAS H. PERKINS
MDCCCXXXIII.

The school was first opened in 1833, in Pleasant Street, with only six pupils. The next year Mr. Perkins having made them a present of his house, and large sums of money having also been given them in many of our cities and towns, the school was removed to Pearl Street, where it now is.—In 1834, they had 34 pupils. In 1835—this year—the number had increased to more than 40; and a great many more would be glad to attend, if they had room for them. I understand they are about to enlarge the building, for this very purpose.

The pupils are not all of them boys; there are nearly as many girls as there are boys. You would be amused to visit them, and see what they could do. Why, they learn to spell, and read, and write, and sing, and work. They print too: that is, they print their own books. I suppose you will wonder how they can read, when they are blind.

The letters are made, not with ink, but by pressing the paper, while it is wet, so that the letters stand up in ridges, very large; and they can tell what they are, by passing their fingers across the lines. Some pupils who have been in the Institution a long time, will read almost as fast as you or I can. They have maps, too, and learn geography. The mountains are raised in ridges, and the rivers are hollowed or depressed lines. The towns are square, or lots.

But what sort of work can they do? you will ask. A great many sorts. The girls can sew, knit, braid, and set the types for printing; and the boys can make door-mats cushions, mattresses, and willow baskets. Some of their door-mats are woven.—You may almost always, when you go there, see one blind man weaving. The grass—Manilla grass, they call it—which he uses, is of various colors; and yet he will arrange the different colors so as to have the mat checkered the proper manner, nearly as well as if he could see. Not that he can tell different colors by feeling—except red, which he says feels more harsh than other colors; but he has a particular box or shelf on which grass of each different color is laid, and he seldom makes a mistake.

You would be surprised to see how happy they are, especially the boys who make baskets. But you may see how they look, when at this sort of work, by noticing the picture on the preceding page; which was drawn by one of our best artists, after being on the spot and seeing them for himself.

In the next number, or next but one, I shall say more about the Institution, for it is one of the most interesting in the whole city of Boston. They have an exhibition once a fortnight. There will be one in a few days; and I shall attend it; and afterwards tell you what they do.

MEMOIRS OF GREAT COMMANDERS: by G. P. R. JAMES, author of Richelieu, &c., 2 vols. Philadelphia: E. L. CARY and A. HART.—Mr. James has collected and embodied very interesting lives of some very interesting men; though, so far as we have glanced at some of the biographies, their details seem mostly those already known. The notices are, however, well put together, and sufficiently copious to enable readers to form a right judgment of each commander. The writer does not withhold his own opinion of the character of those whose actions he commemorates, and of Gen. Monk, whose biography is one of the best executed in these volumes, he thus speaks:

The violent parties which were born of the civil wars, viewed the conduct of Monk in the most opposite aspects; nor was it alone those two factions, which would have excluded the King, or shackled his return with unworthy conditions, which either misrepresented General Monk's actions or imputed to him evil motives, or depreciated his talents.

Those persons who had concurred in the Restoration, hated him who had effected it with the virulence of rivalry, strove to invalidate his claims, in order to enhance their own, and envied him the rewards which they had neither merited nor obtained. Thus the disappointed Cavalier, the thwarted Presbyterian, the crushed Republican, are alike found slighting Monk's abilities and denying his merit. Bishop Burnet himself, with the violent party-feeling which overcame in him sometimes both an excellent judgment and a strong love of truth, has spoken lightly of Monk's understanding. But in the very writings of the men who would condemn him, we find the highest tribute to his character. If we take but the facts which they state, and put aside the prejudices with which they comment on them, we shall perceive that Monk distinguished himself highly in early life, and won the esteem of both parties in the State, when both were prolific in men of great and extraordinary genius. We shall find that he was eminently successful against the greatest officer the Dutch ever produced—that in his command in Scotland he reduced a turbulent, dissatisfied, and irritated population, to quietude and order; and did so by means which at once compelled their obedience, obtained their respect, and won their love—that in a most difficult and extraordinary time he acted with consummate prudence, skill, and firmness, repressed insurrections, guided the obstinate, governed the unruly, intimidated the fierce, overawed the bold, and without the effusion

of a drop of blood, conducted a total revolution in thoughts, feelings, policy, and government, to a safe and speedy termination.

A man may perchance gain one victory, or more—increase his wealth, or raise himself in station, by a mere concatenation of fortunate circumstances; but a man cannot go through a long and complicated enterprise, where many are opposed to him, and all are jealous of him, where he has frequently to change his conduct without changing his object, where he has to take advantage of some circumstances and create others, without many of those qualities of mind which constitute a great man.

Monk did so, and he was a great man. Nor can it be said that he was ungenerous, though the rewards which he obtained made many envious, and the wealth he acquired offered a fair excuse for party accusation. His admission of the King, without making any terms for himself, was either an act of noble feeling or of policy. If of noble feeling it speaks for itself; and if of policy, it was that of generous policy which none could conceive or appreciate but a generous heart. Taken by itself, it was a fine and magnificent action, and as such will be remembered when the politics of those times are forgotten, and prejudices are no more.

THE EARLY NAVAL HISTORY OF ENGLAND, by ROBERT SOUTHEY, LL. D., Poet Laureate. 1 vol. Philadelphia, CAREY, LEA & BLANCHARD.—The most vigorous, accurate, and copious prose writer of the age, here puts his hand to a work which—written in the spirit that pervades it—will both improve and instruct.

They who have read "the Life of Nelson," from the same pen, will not need any other inducement, to turn to this volume on a somewhat cognate theme, and the rather, as here, there is less temptation to gloss over moral obliquities, than in writing the life of one, then scarcely eclipsed from the scene of his splendor—and some of whose acts, especially the murder of *Caraccioli* in the bay of Naples, became so identified with the impassioned politics of the day, as to render calm and impartial judgment very difficult.

This history begins with the invasion of Britain by *Julius Caesar*, and is brought down to the close of the fourteenth century—a period embracing much that will necessarily interest all inquirers into the commencements and early feats, of the greatest naval Power the world has yet seen.

We shall still further tempt readers, we think, by copying entire the author's own exposition of the object of his work. Here it is:

According to the Welsh Triads, the earliest name by which Britain was known was *Clas Merdin*, the sea-defended green spot. Such an appellation may seem to have been prophetic. But the sea defends no people who cannot defend themselves; and it was with this feeling that Wordsworth, the great poet of his age, poured forth a lofty strain, when, looking from a valley near Dover towards the coast of France, and "the span of waters" which separated us from that then most formidable neighbor (for it was while Buonaparte was in the plenitude of his power,) he said—

"Even so doth God protect us, if we be
Virtuous and wise! Winds blow, and waters roll,
Strength to the brave, and Power, and Deity;
Yet in themselves are nothing! One decree
Spoke laws to them, and said, that by the soul
Only, the nation shall be great and free."

With all the ports of the continent in his possession, and all its natives at his command, that narrow channel was found impassable by the most ambitious, the most powerful, the most enterprising, and the most inveterate enemy with whom this nation ever was engaged in war; for Great Britain had manfully won and victoriously maintained the dominion of the sea. It will be neither an unworthy nor a useless task for an Englishman who loves his country, and who, in doing his duty towards it in his station, trusts that he may deserve to be held in remembrance by posterity, to record the actions of those brave men by whom that dominion was acquired: and a series of their lives ("wherein," to use the words of a wise and good man, "I intend to do them right with the truth thereof, and myself with the freedom") will be the most convenient form for a compendious naval history of England.

It is, however, no wish of the writer that the work he has thus undertaken should be the cause of inducing any hopeful youth, who otherwise might not have been so inclined, to enter the naval service; the ways of that service are as little ways of pleasantness as its paths are paths of peace; and rather would he that his right hand should forget its cunning than that his writings should produce such an effect. Nevertheless, as for that profession, with all its deterrents and its moral dangers, adventurers never will be wanting, so long as, in the order of Providence, such means of national defence are needful,—it is good that they should be provided with a manual of this kind, wherein, as in a chart, they may discern what they are to seek and what to shun, by perceiving what things in the conduct of their predecessors ought to be regarded as warnings, and what as examples. And as every way of life, from the highest to the humblest, has its besetting sins, so, let it be remembered, each may and ought to have its appropriate virtues; and those which the seamen is called upon to practise are of a high order. He lives in a course of privations, self-denial, and strict obedience, always in insecurity, often in danger, not seldom in the face of death. Through such discipline no man can pass unchanged; he must be brutalized by it, or exalted; it will either call forth the noble qualities of his nature, or worsen a bad disposition, and harden an evil heart. The more necessary is it, therefore, that he should be taught where to look for examples, and where for assistance and support: the former are afforded him by history, which is always most useful when it is related with most fidelity; for the latter he must look to that Heavenly Father who has created and preserved him, and in His infinite mercy has given him the means of grace.

Sailors are taught in their part of our incomparable Liturgy to pray that they may be a safeguard to the sovereign and dominions, and a security to such as pass on the seas upon their lawful occasions. They are required, before a battle, to call upon the Lord, and entreat Him "who sitteth on the throne, judging right," to "take the cause into his own hand, and judge between them and their enemies;" and they are enjoined, after the victory has been given them, to acknowledge that He has been their strength, and to pray that "the mercies which they have received at His hands may be improved to his glory, to the advancement of His gospel, the honor of their sovereign, and, as far as in them lieth, to the good of all mankind." Thus solemnly are they instructed; and it is not presumptuous to believe, that while the service is carried on in this spirit, and in this faith, the protection which has hitherto been vouchsafed it, and which is thus implored, will never be withdrawn.

THE AMERICAN QUARTERLY REVIEW, No. XXXV., new series, September. Philadelphia, L. R. BAILEY. New York, G. & C. CARVILL & Co.—There are papers in this number of great ability. We would instance that on "the Documentary History of the American Revolution," albeit it is sadly calculated to shake one's faith in the truth of History—and that on National Defence, which should be generally read. We shall hereafter make extracts from this latter paper.—To-day we devote all the space we can spare to extracts from the paper on *Audubon*—which vindicates, in a becoming strain, the character, veracity, ability, and perseverance of this enthusiastic man of genius.

We make these extracts without much connection, and leave them to speak for themselves: Passing by for the present the names of a galaxy of worthies who have long rested with the glorious dead, we may confidently refer, as a living example, to him, the titles of whose works stand at the head of this article; who, for untiring zeal, singleness of purpose, and devotedness of heart, has never been surpassed by any devotee of that goddess who disclaims all cabinet courtship, and who may be wooed with success only at the foot of those altars sacred to her own cause.

The name of *Audubon*, already enrolled in the records of imperishable fame, will descend unsullied to the remotest posterity; will live and flourish when the insignificant few of his contemporaries, whose jealousies urged them to reckless efforts to despoil him of his dearly purchased honors, shall

long have been consigned to the oblivion of things that never were. Our readers are, most of them doubtless, familiar with the first volumes of both of his unrivalled works, the "Birds of America," and the interesting letter press entitled "Ornithological Biography." It is the object of the following pages to introduce to our author's compatriots the second volumes of those works. We enter upon this subject fully impressed with the difficulty of the task, aware that trans-Atlantic arbiters of taste and science have already wielded abler pens in the same cause. On opening his volumes of *Ornithological Biography*, the reader is charmed with the vein of active benevolence displayed towards the objects of his research, whom our author is ever disposed to view with a partial eye, as the companions of his early youth, and as friends of maturer age: not less striking in the fervent piety which breathes through all his pages, together with a keen sensibility to favors conferred, evinced in his frequent and liberal acknowledgements to his early patrons.

The volume before us, like its predecessor, is by no means confined to the dry details of the scientific descriptions of the objects so beautifully depicted in his great work; each species being presented in a style so familiar, easy and accurate, as to bring the reader into the actual presence of, and render him personally acquainted with the most attractive portion of the animal creation; thus furnishing a feast of reason adapted equally to the taste of the uninitiated and to the most profound. Each consecutive number, consisting of five plates, is followed by an episode, containing novel and interesting views of the manners and customs of the thinly settled portions of our country, liberally interspersed with curious anecdotes, derived from his intercourse with semi-civilized man, and occasional representations of natural scenery, unsurpassed in beauty in the dreams of romancers. These little histories, which were originally introduced into his volumes of text with the view of relieving the monotony of scientific details, or for the amusement of the general reader, have now become important scraps of our author's Biography, and are perused with pleasure and profit by all descriptions of persons; they are in fact replete with information of a most important nature in several departments of science, besides enabling us to estimate at their true value the labors and almost unparalleled exertions of a successful and enthusiastic devotee in science.

From what has already been stated, it will be perceived that our animated author is seldom caught in the croaking mood; he nevertheless opens the second volume with the description of the *Raven*—a bird sacred to fabulous history, and possessing no very amiable character; he loses nothing certainly, in sitting for his portrait before a master hand. We now recognise in him, dispositions and habits as respectable as they are venerable, and which fully entitle him to the honor here reserved for him. But the limited space to which our observations are necessarily restricted, will not permit us to enlarge on the many remarkable beauties and curious features which present themselves in this department of the work; nor do we deem it necessary to adhere very closely to any particular order or arrangement. We may safely refer to his description of the Turkey-buzzard, as peculiarly graphic, and in many points highly important in a physiological view.

Mr. Audubon has been highly censured for some original observations on the power of smelling in this species, and published formerly in the Transactions of the Royal Society of Edinburgh. There were not wanting some closet naturalists, who, wedded to old prejudices, boldly impugned the veracity of his statements. The entire correctness, however, and strict union with nature, has been subsequently proved beyond the possibility of contradiction, by the institution of a series of labored and careful experiments, performed under the auspices of disinterested persons, and witnessed by many of the most eminent men of science, and most of the professors in the Medical School of Charleston, S. C. Every one whose mind is open to conviction, is now satisfied of the fact first announced by Mr. Audubon, that the turkey-buzzard is directed to his food by the power of vision, and not by the faculty of smelling, which exists indeed in rather an inferior degree in these animals;—thus casting back upon its source the foul aspersions of ignorance or malice.

But, to return to our author—whose reasonings have always facts and observations for a basis.—His accurate, and, we may say, *personal* acquaintance with the feathered tribes, we have enjoyed frequent and various opportunities of testing.—Sometimes at great distances, by their mode of flight; again, when nearer, yet out of sight, “by the tones of their voice,” or the melody of their song, were the various species recognised.

But the case of the *white headed eagle* furnishes a striking instance of his critical acumen, and must convince the most skeptical. At page 163 we have the following remarks on this bird:

“I have no doubt that in a state of confinement this species sometimes requires a long series of years before it obtains the full adult plumage, by which it is so distinctly characterized. There is now one living in the suburbs of Philadelphia, which was eight years in coming to its state of maturity. Almost every person who saw it in its brown dress, called it either a new species or a Golden Eagle! Nay, some said that it must be the pretended *Bird of Washington*! A friend took me to see it; I felt assured as to the species, and told him that his head and bill would become white and that its size, which was rather larger than common, was not such as to indicate a new species.”

This fine specimen, which is still living at Mr. M’Aran’s garden, has been actually described as a new species by a naturalist of Philadelphia. Yet we are assured by those who witnessed the experiment, that the unerring *aquiline eye* of our author detected the species, and pronounced, with the certainty of brotherly recognition, that an old acquaintance stood before him, ere he had approached within several feet of the object; and although at the time not the least indication of a coming change of plumage was apparent, he asserted that it could not be long before the usual characters would be developed. In less than two years his predictions were verified.

But amidst the universal peans which resound far and near, to the merits of lofty genius and well tried talents, “what notes of discord are those which disturb the general joy, and silence the acclamations of victory? They are the notes of *John Hook*, hoarsely bawling through the *American camp*, beef! beef! beef!” (Vid. *Wirt’s Life of Patrick Henry*, p. 374.)

’Tis true, the unassuming, confiding and modest historian of nature has his enemies, and perhaps there is no one whose brilliant productions are more calculated to excite *envy*; but fortunately, the intellectual force of our author’s opponents falls far short of the activity and zeal which they have brought to bear in so unjust a cause. Otherwise we should have experienced a degree of mortification in confessing that these opponents are chiefly limited to Mr. Audubon’s native countrymen. As it is, their vain efforts would be calculated to excite amusement, were it not for the malice by which in most instances they are characterized. In alluding to some of their unfounded charges, we shall assume the forbearance of Mr. Audubon, who has at all times abstained from mentioning the names of those who have so unjustly persecuted and reviled him. In this respect he has not only displayed a Christian virtue, but may find his account in having thus deprived those names of the only chance which they ever possessed of descending to posterity along with his imperishable works.

It is not requisite now to enter into any disquisitions to refute long exploded errors: in every instance it will be found, on close examination, that all the specified charges put forth to fix the stigma of mendacity to the name of our author, or to convict him of the base attempt to palm upon the public the spurious productions of a vitiated imagination, for grave truths in natural history, have invariably arisen out of the ignorance or malice of the accusers.

Thus the extraordinary and curious facts in the physiology and habits of the turkey-buzzard, so faithfully observed and accurately detailed by Mr. Audubon, were not only received with disdain, by his opponents, but were publicly cited as sufficient evidence of the ignorance and presumption of our author. At the present time, after the repeated and satisfactory experiments, instituted expressly to determine the disputed points, by numerous and highly reputable and disinterested witnesses, no one who entertains the least regard for his own reputation or honor, would presume to express a doubt. Not less satisfactory have prov-

ed the results of subsequent investigations, by competent observers, on the “habit of climbing of the rattle-snake,” together with the occasional disposition of this animal to enter the water to swim—both of which facts had been repeatedly cited to reflect on the veracity of our author—and were even urged during a successful canvass for the election of Mr. Audubon as a member of the American Philosophical Society, as sufficient reasons for excluding him from its honors; but the mere positive assertions of inexperience and prejudice, failed before the published testimony of such observers as Gen. Jessup, Gen. Gibson, Col. Abert, Lieutenant Swift, &c. of the United States Army.

* * * * *

This active little band of brotherly censors have not confined their exertions to our own country; and they have found a most faithful correspondent and ally in the person of a Yorkshire “Wanderer,” who has passed the greater portion of his life in fruitless efforts to run away from his own shadow. He has published a work in England, on “Wandering,” in the preface of which he assures us, that “Sir Joseph Banks predicted that he would write a book,” which would “improve and extend materially the bounds of natural science.” We have waded through its pages, in vain, to discover the fruition of this prophecy. At page 37, we meet, in his own language, expressions admirably well calculated to enable the reader to estimate, at their true value, these abortive pages.—“Ludicrous extravagances! pleasing to those fond of the marvelous; and excellent matter for a distempered brain!”

This able and active little censor, having of course nothing but the advancement of science at heart, and desirous to purify the pages of *Natural History* from the baneful *fables* which too frequently disfigure it, commenced an early warfare, ay! “war to the knife,” with the Author of the “*Ornithological Biography*,” whom he appears to have viewed from the commencement as a poacher on the manor which he considered peculiarly his own! He appears to be well supplied with materials for detraction, which will not appear strange, when it is known that one of the American band of censors has feasted at Walton Hall? How utterly fruitless would be the effort to deceive him, and save him from the effects of the hallucination under which he labors as regards the true character of Mr. Audubon, is well exemplified, by a confession of his own, occurring at page 101 of his book, viz.: “When you once fancy that the thing you are looking at is really what you take it for, the more you look at it the more you are convinced that it is so.”

THE UNVEILED HEART.—A simple story by the author of early impressions. 1 vol. Boston. JOHN ALLEN & Co. For sale in New-York by WILEY & LONG.—The preface tells us, this prettily printed volume has no pretension to pass for a *novel*—and, certainly, so far as inspiring interest is one of the characteristics of a novel, it lacks that. It is a simple story, meant to unveil the heart, by a series of scenes such as may occur in real life—the design strikes us as better than the execution.

THE LITTLE SCHOLAR LEARNING TO TALK. JOHN ALLEN & Co.—A clever design cleverly executed. This is a picture book, which having first attracted the eye of childhood, is then made the vehicle of explanatory instruction, conveyed throughout in the tone and manner of a mother conversing with her children—and illustrated in each instance by a picture. It is quite worth buying.

VISIT TO WORDSWORTH.—The following extract is from one of the most recent of Mr. Brooke’s letters from England.

We wound up the slope of the hill to present our letter of introduction to Mr. Wordsworth. My friend, to whom the letter especially belonged, rapped at the door of the Poet,—and I sat down on a neighboring ledge, and took out my writing materials, to note some of the peculiarities of this new scene. Before I had gone far with this, Mr. Wordsworth himself came out, and his cordial unaffected welcome, soon relieved me from all embarrassments. Among all the great men on the two sides of the ocean, whom it has been my fortune to see, he is

the only one whose real self, embodied the man whom my fancy had drawn. He dwelt too in some such place as I should suppose a poet to dwell. A lover of nature, he had sought the loveliest spot he could find; and he had found what ought to be, and what seems as if it were made to be, the very spot for such a man. He took us into his library, among his books, busts, and paintings,—and though there was nothing remarkable in such a study, yet it is pleasant to have been in the study, from which so much of beautiful poetry has come. He then walked with us over his grounds. Back of his dwelling is a mountain of some considerable height, on the side of which the house seems to stand. In front, on a little elevation, an artificial mound, called Rydal Mount (the name of his seat) he showed us a charming view of Windemere in the distance. Here with a poet’s soul, he dwelt upon the beauty of the spot,—with no affectation, no display of words, but in that calm and quiet narration ever the offspring of natural feeling. “I live,” said he, “on other peoples’ prospects. I have the finest view of Windemere, and yet it costs me nothing.” Here you see is what is gained by living over other peoples’ heads. I have all their prospects, and my own too:—and I thought it was no bad speculation even for a Poet, to make such a purchase, as I saw in the glen below him, some pretty vales, and the little church with its Gothic tower just peeping through the trees. He took us next from this wide view, to Rydal water, a little lake, or pond as we should call it, at the base of the mountain—and as we went through a bower of burrs, with logs for seats, our eyes fell upon this lovely spot. No wonder, thought I, that you can write poetry in such a place, I even feel it in my own veins. We moved along through various walks that wound around the hill—now in wood, now in gardens, now in field, now on the slope of the hill, now on plain, and now on precipice almost—and then we returned to the cottage itself, all inwreathed in shrubbery and flowers. “The eye,” said he, “must study landscape scenery before it can properly love it. It needs training for this as it does for the proper perception of all the beauties of a great painting. An impression may be made—but the intense delight that a true lover of nature feels, in looking at a beautiful prospect, comes of education in part,”—and I could well see that the maker and adorer of the charming spot, had studied nature as other people study books, not even forgetting the humblest blade of grass.

The poet with an earnest hospitality, pressed us to partake of his dinner, which was already upon the table, some three or four hours earlier than a London dinner. There was no escaping such an invitation thus given, though there is nothing I dislike so much, as eating dinners on a letter of introduction—but as this was no dinner purposely prepared for guests, the objection was softened much. The conversation ran upon our country, and its resources, and its probable destiny. “Heaven grant,” said Mr. Wordsworth, “that your experiment may succeed. It is a bold and great one—and if it meets success, lifts men upward one further step—but I do not believe it will. There are too many in the world that will seize that splendid prize of yours—the chief magistracy, I mean—honestly if they can, but at any rate they will seize it, if they have to do it, even as Cæsar did. I cannot believe,” he added, “your States will hold together. You count too much upon the moderation and virtue of all mankind—for one man who will demagogue much, can do infinite mischief, where he can act upon a whole people, who are in fact the whole government of the State.” I told him of our checks and balances, and all those bulwarks upon which we rely. The conversation then ran upon, what he termed, the utility of an aristocracy, that should in some degree concentrate wealth for the purpose of patronizing genius, and rearing up a society in which men of intellect and learning should live and flourish. I told him we must rely upon our mercantile wealth for all this—and then I pressed the question, of which was the better in the scale of human happiness, that the mass should flourish as with us, or the few as in Britain. The mass he contended were happy here, and had enough to eat and wear.—“The aristocracy and gentry provided for all the poor.” I shook my head, and only added that the mass seemed made for other purposes than to eat, drink, and wear. The conversation changed.—Thus do Englishmen and Americans differ. An Englishman has no idea of what a popular government, by ever impelling and exciting the mass to improvement, can do in elevating their minds and

characters, to say nothing of that lower object, the acquisition of property,—and what renders them doubtful of the principles of the mass, is its ferocity when excited here in England, and Ireland.—We have no such mobs unless it be in New York, which is getting to be a European city, that some chance or other has dropped on our side of the water.

After dinner, when we were introduced to the family of Wordsworth, who, received us with a hospitality as kind and as unembarrassing as his, he generously offered to conduct us to some of the scenery around, which we expressed some interest in seeing, as they were spots which his poetry has made known in America, as well as in England. I felt much reluctance in troubling such a guide,—but yet how pleasant it is, to have the Poet himself, in his own person, pointing out the vale and mountain, and lake, that his own pen has peopled with the beings of his own fancy! And how delightful this idea of consecrating one's own home, through all coming time, by throwing around it the enchantment of poetic fancy,—giving the hills that shall never die, and the waters that shall never cease to flow, trumpet-tongues that for all ages shall speak the poet's name—making them by his genius the monuments of his own glory—loftier Mausoleums too than man can pile together,—and as everlasting as earth itself. The pyramids of Egypt are no such monuments as Langdale Pikes,—and as long as they stand, Wordsworth's name will dwell with them, and thus long the traveller will view them with an interest, that the scenery itself wild as it is, can never create.—Wordsworth showed us all, and wandered with us some three or four miles more. He took us to the grounds of Captain Hamilton (of men and manners memory, whose book by the way has done us infinite mischief in England, for all the intelligent people look upon him as a man of talent and character, while Mrs. Trollope's is every where viewed as an amusing caricature)—and, as he was not now at home, he showed his house and grounds. His house is on but a narrow piece of ground,—and yet the ground has been so laid out, with such a seizure of prospect, and such an improvement even of the ledge of rocks near which it is, that it is made a charming spot. I do not know but that this turning of ill to good, is one of the finest achievements of English taste, I have ever seen. Even the little cliff is made an ornament.—The water-view in front is fine. And then the flowers and shrubbery, they so adorn the house as to make it seem a fairy bower. But Lady——, somebody whom Hamilton is to marry, or has married, will remove him from this, to a larger place, where more friends can be accommodated. Mr. Wordsworth next escorted us over the grounds of Lady le Fleming—Rydal Hall, as it is called. "To have an idea, said he, of the manner in which property is preserved under our laws, and in a single family, you must remember that this estate has been in the family (of Norman descent,) ever since the days of Henry VI." I remember by the way, a good discussing this law of Primogeniture, with an Englishman in London, who, at least gave me a new, if not a good argument in its behalf. "Our law, said he, makes but one poor devil in the family, the eldest son—yours make many, for it throws wealth into the hands of all. The younger sons with us must look out for themselves. Yours are looked out for!" Mr. Wordsworth pointed out to us a beautiful cascade on the estate of Rydal Hall, near which was built a rustic seat to give a front view,—and then from these garden scenes, we began a ramble over the rougher hills. The poet took his umbrella, for here there is a shower every other hour,—and though he was obliged to handle this, and watch his straw hat that the wind played roughly with, yet, sixty-five years old, as he told us he was, he would clamber up and down the cliffs, with as sprightly a foot as we could. He guided us to Loughrigg Mount, where we had a view of the Grasmere Lake, and clambering over a wall, where the poet lost his hat, for which we had a race,—and then sitting on the brow of the mount, we had a view of a little paradise below—mountains all around, a little lake—with a narrow valley highly cultivated—flocks grazing on the brows of the hills—a church in the distance—the village of Grasmere,—a well made road winding around the water—nature and labor doing so much—indeed it is one of the most beautiful views I ever had of such a character! On we went, then, to yet wilder spots, till we came to a lone house amid the hills, where poverty plainly dwelt, which Wordsworth

entering, brought the good woman to the door, whom he addressed in almost another language, (the Cumberland dialect) and after inquiring about her health and that of her family in the kindest and most familiar manner, solicited for us the guide of her son. This was yet the best display of Wordsworth's character I had seen, so much of simplicity was there—so free from ostentation—such a benevolence,—and then so much of respect and affection from the old woman, to one who had evidently done her a thousand generous services. I shall always love the man and his poetry the better for such a scene. While the guide was adjusting his dress, we sat down upon some rocks, and Wordsworth pointed out the scene of his "Excursion," and some of his minor poems. He then dwelt upon the critics who had assailed him in his early life, and made his poetry unpopular. They may have affected my fortune, he said, and thus my enjoyments and my means of doing good,—but they have never wounded my feelings—for I never wrote for popular applause,—I felt that the time would come, when justice would be done,—and now I have that justice—now when the reward is most sweet, as I am about to end my days. I have it in such an interest as you and others like you, just beginning life, and from the most distant parts of the world, have expressed in my behalf." Indeed he has. His morn was dark and cloudy.—The noon of his life had none of the midday light. But his sun is setting in one unbroken stream of lustre. All are awarding him praise. Tardy justice has come at last, with triple honors. Even the sole and proud position of Milton is in danger. But I believe all this is but the beginning of his fame, for his is a school that stands the test of time, the school of Nature.

Our guide having at length arrived, Wordsworth marked out our route on a slip of paper, with all the views of interest for miles, over all of which he had wandered, and which he had studied for years and years. I could not avoid expressing warmly a wish that he could visit America, and there find a wilderness of scenery worthy of such a pen,—immortalizing our mountains and our vales, as he had those of his own home. "I shall never see America," he said.—"I might if I were younger—but I shall never cease to have an interest in all its history." I took out my pen, ink and paper, and asked for his autograph. "Langdale Pikes in front of us. June 20th, 1835," with "Mr. Wordsworth," was on mine, and "Vive, valeque" on that of my friend. I bade him adieu with tears in my eyes. How painful it is to part thus forever from such a man!

In these details of an interview with Mr. Wordsworth, I hope my friends will not think that I violate any of the civilities of life by a publication. I feel that I have done nothing of which he would complain, occupying the position in the world that he does, and this must be my acquittal; for of all unpleasant offices, that of reporting a private conversation upon matters where secrecy is tacitly expected, I should avoid the quickest. It is ever dangerous ground to tread I know, and a great discrimination is to be used. And he who expects such kindness from many literary Englishmen, professing no more liberality toward the American government than Wordsworth's political principles can allow him to have, will expect in vain. Beware, I tell my countrymen, of wasting admiration upon certain men, radicals though they be, and great admirers though of radicalism on paper, but aristocrats and fops in fact. A courtier of the mob here, on paper, is often a Lord-hunter in person. I have been told—I do not know, for I have not seen him but in his seat in the House of Commons, and do not wish to see him elsewhere, after what I have heard—that a certain novelist, whose talent and whose power, all Americans show their taste in extolling high, is but the person whom I have described, and that the incense we burn at his altar, is but stuffed at, as the offering of some brute beast. As a fact, it is stated, that the kindness which is shown to Americans by Sir Robert Peel, whose political prospects depend upon stopping the progress of American principles, is much more remarkable than that of the radical who writes so much in their favor.

[From *Nephistophiles in England*.]

TAGLIONI.—Between the acts the curtain rose for a divertimento in which the incomparable Taglioni made her appearance. She was greeted with the loudest demonstrations of popularity from

her numerous patrons, which she acknowledged by several graceful courtesies.

"Behold!" said Mephistophiles, directing my attention to the evolutions of the dancer, "the progress of civilization. If all this were not so graceful, it would be indecent: and that such an exhibition has a moral tendency, is more than doubtful. Look at that young girl in the pit! she has seen sufficient to crimson her face, neck, and shoulders, with a blush of shame; and she hides her head from a sight which has shocked her sense of decency. There is no affectation there. She is an innocent girl, fresh from the country, who never saw a ballet in her life. Yet all the rest, man woman and child, gaze on delighted. Every glass is raised, the more closely to watch the motions of the figurante. Look! she makes a succession of vaults; and her scanty drapery, flying above her hips, discloses to her enraptured admirers the beauty of her limbs. A thousand hands beat each other in approbation. Now she pirouettes, and observe the tumult of applause which follows. See! she stands on her left foot on the point of her great toe nail, extending her right leg till the top of her foot is in a parallel line with the crown of her head. In this position she bends, with an appearance of the greatest ease, till her body nearly touches the ground; and then gradually rises, with the same infinite grace, amid enthusiastic bravos and ecstatic applause. Now on her tip toe, her right leg still extended, she moves slowly round, liberally extending to all her patrons in sight the most favorable opportunity of scrutinizing the graces of her figure, while the whole household testify their infinite gratification at the sight by every species of applause. Again she comes from the back of the stage, turning round and round with the speed of a tetotum, but with an indescribable and fascinating grace that seems to turn the head of every young man in the theatre. During the storm of approbation which ensues, she stands near the footlights, smiling, courtesying, and looking as modest as an angel. Then comes Perrot, who is as much the idol of the ladies as Taglioni is the goddess of the gentlemen. He leaps about as if his feet were made of India rubber, and spins round as if he intended to bore a hole with his toe in the floor of the stage. Then a little pantomime love business takes place between the danseur and the danseuse: they twirl away, and glide along, and hold eloquent discourse with their pliant limbs; and the affair ends by the gentleman clasping the lady round her delicate waist, whilst he, bending his body in the most graceful attitude, so that his head shall come under her left arm, looks up in apparent ecstasy into her smiling face, as the lady, raised high above him on the extreme point of her left foot, extends her right limb at right angles with her body, and looks down admiringly upon her companion. Thus grouped the curtain drops, and every one cries 'bravo,' thumps the floor with his stick, or beats his palms together, till such a din is raised as is absolutely deafening."

"She is a charming dancer," I observed.

"Yes!" replied he, "she understands the philosophy of her art better than any of her contemporaries: it is to throw around sensuality such a coloring of refinement as will divest it of its grossness. For this she is paid a hundred pounds a night, and is allowed two benefits in the season, which generally averages a thousand pounds each. While you are thus liberal to a dancer, some of the worthiest of your ministers of religion receive about fifty pounds per annum, for wearing out their lives for the good of your souls; and many of your most exalted men of genius are left to starve. Such is the consistency of human nature!"

INFLUENCE OF PROFESSION ON MORTALITY.—There are some curious facts respecting the influence of professions on mortality, collected by Dr. Casper, of Berlin, from which it appears that "head work is more injurious than bodily labor; but that the combination of the two is the most wearing.—A sedentary life, free from all excesses, is on the contrary, the condition most favorable to life." Of all professions, that of a physician, according to Dr. Casper, is the most life-wearing; while that of the divine occupies the other extreme of the scale. Of 100 divines, 42 reached 70 years of age and upward—of 100 physicians, 24 only attained to that age. Of 1000 deaths, between the ages of 23 and 62 inclusive, the years of greatest professional activity, there were—of physicians, 610—of divines, 345.

AVERAGE DURATION OF LIFE.—Upon the value of the average duration of life, in determining

the relation some extension is a fewer condition; useful sum are not a state, M of society future d it, his ex To estim that a ch sixteen Country francs. fancy, c least, be by sociel charity. 960,000, servicea may be without eral cons other tra The exp ing the the enor we const losses m compens subject islator a peated, in the their con a new it and their by which incipient occasion

THE ing notice of Maup informat formerly liar prop leaves p it was n ter to hi very wo is a new plant ha seems al rious pa observ by the t You kn musa an pula, ar dy, or f in quest Whether taneous other, o nor all ther th flowered the aut stances but aw We wi in the f tability that of leaves may be young efficient plants mature sive vances just as man sp

THE ced rail sional The ri there is and the some r

the relative prosperity of nations, M. Quetelet has some excellent remarks: "It may be said, that nation is increasing in prosperity when it produces fewer citizens, but preserves them longer. This condition is entirely to the advantage of the population; for if the numbers born are smaller, the useful subjects are more abundant, and generations are not so frequently renewed, to the injury of the state. Man, in his early years, lives at the expense of society. He contracts a debt, to be repaid at a future day; and if he does not live to discharge it, his existence has been a burden to his country. To estimate this expense, it is sufficient to state, that a child, from its birth, till it attains to twelve or sixteen years, costs, in the hospitals of the Low Countries, 1,110 francs; say, however, only 1,000 francs. Every individual, then, who survives infancy, contracts a sort of debt, which cannot, at least, be less than 1000 francs—the sum thus paid by society for each infant, when abandoned to its charity. In France the annual births amount to 960,000, of which, 9-20ths die before attaining to a serviceable maturity. These 430,000 unfortunates may be considered as so many strangers, who, without fortune or industry, take a part in the general consumption, and depart without leaving any other trace of their passage, save eternal regret.—The expense of their maintenance, without reckoning the time they have pre-occupied, represents the enormous sum of 432 millions of francs. If we consider, on the other hand, the grief that such losses must occasion, which no human sacrifice can compensate, it will be perceived how important a subject they afford to the consideration of the legislator and philosopher. It cannot be too often repeated, that the prosperity of States consists less in the multiplication than in the preservation of their component numbers." This reflection gives a new item in the long account between mankind and their governors, on the score of useless wars, by which so many are cut off at a moment of their incipient utility, and the greatest possible waste is occasioned of the national resources.

THE MOVING PLANT.—The following interesting notice of the Moving Plant appears in No. 122 of Maund's Botanic Garden, a work replete with information on such subjects: "This plant was, formerly, called *Hedysarum gyrans*; and the peculiar property of continual motion which its ternate leaves possess has interested naturalists ever since it was noticed by the younger Linnaeus. In a letter to his friend Mutis, he says, 'I have raised a very wonderful plant this year in my garden. It is a new species of *Hedysarum* from Bengal. This plant has a spontaneous motion in its foliage, which seems almost voluntary. You are aware that various parts of the vegetable body, especially those subservient to impregnation, can be so stimulated by the touch as to exhibit some kind of movement. You know also the motions of some kinds of *Mimosa* and *Oxalis*, as well as of the *Dionea muscipula*, arising from the touch of any extraneous body, or from agitation of the wind. But the plant in question is not affected by either of these causes. Whether in the open air or in a close room, it spontaneously moves its leaflets, now one way, now another, one, two, or more at a time; not all at once, nor all in one direction; and this takes place whether the air be serene or rainy. It has not yet flowered, but I expect that event in the course of the autumn. The plant requires great heat." Instances of incomprehensible action like this can but awaken the attention of the most apathetic.—We will give a figure and particulars of this plant in the fifth page of the Florist Register. The irritability of such plants is better known, especially that of *mimosa pudica*, or humble plant, whose leaves shrink from the touch, the culture of which may be recommended to the curious amongst our young friends. Seeds are easily obtained, and an efficient hot bed during summer, in which the plants should be constantly kept, will sufficiently mature them for the purpose of showing their sensitive peculiarities. This is a property which advances the vegetable towards the animal kingdom, just as instinct advances the brute towards the human species.

THE RIVER.—On last Friday night it commenced raining, and has continued to rain, with occasional intermissions, from that time to the present. The river has in consequence risen considerably; there is now water enough for middle sized boats, and the river is still rising. The Tempest, a hand-some new boat, departed this morning, and several

other boats are taking in freight.—[Pittsburg Gaz. of 21st.]

WHEELING, Sep. 1.—It rained through the whole of Saturday. The river will doubtless rise to-day or to-morrow and continue navigable for steamboats until closed by ice. The past season has been a remarkable one. The water has not been so low as to prevent the departure of steamboats down the river daily, and there have been but eight or ten days in which they could not ascend to Pittsburg. One class of our enterprising navigators has been greatly disappointed, and consequently suffered much loss—we mean the owners of keelboats. The year may be said to have been lost to them—like the farmers, who from the operation of contrary causes, lose a crop by the suspension of the rains.

CHOLERA.—The last Milan (Huron county, Ohio) Times mentions, that no other cases of Cholera had occurred in that vicinity subsequent to those stated to have taken place in the family of Anson Merry, a few weeks since.

HEALTH OF NEW ORLEANS.—The True American of the 10th instant, states that the number of deaths in N. Orleans during the previous week, had amounted to about one-third more than the usual number. The increased mortality was attributed to the hot weather of that week. The temperature had become more agreeable at that date,—there having been a refreshing shower of rain on the day before—and it was expected the city would regain its accustomed degree of health.

The Boston papers, of yesterday, announce the demise of the venerable Jacob Kuhn, at the age of more than four score years, more extensively known, perhaps, than any other individual in New England, from the office he held. Mr. K. was chosen under the colonial government, messenger, or sergeant-at-arms, to the House of Representatives in Massachusetts, which he held for more than half a century, and like his prototypes William Cooper, town clerk of Boston, and Abraham Newland, cashier of the bank of England, was never absent a day from his official duties, during that long period of time, each considering his respective avocation paramount to every pleasure or other pursuit in life. No better proof of his integrity and talents can be adduced than that he was annually re-elected without opposition, amidst party strife and political calms, never having an opponent.

IMPORTANT NOTICE.—Section 5.—No auctioneer on the same day and at the same place where his public auction shall be held, nor any other person, at the same time and place, shall sell at private sale any goods liable to auction duties, under penalty of forfeiting their price.—[Vide Auction Laws S. N. Y.]

THE BANK OF THE U. S. is closing up its concerns, as speedily we presume, as comports with public convenience, and that of the debtors of the Bank. We find in the Boston Atlas the following statement:

The Bank has twenty-five branches. Eight of them are sold, or nearly wound up. These sales have been effected at one, two, three and four years' credit. In two instances the instalments have extended to five years. Two other branches will be sold, probably, in a few days. A negotiation for them is in progress. The eight branches above alluded to, are Portsmouth, Hartford, Utica, Buffalo, Louisville, Lexington, Charleston, and Baltimore. The two under negotiation, are Fayetteville and Nashville.

BANK OF MASSILLON.—At a meeting of the Board of Directors of the Bank of Massillon, on the 5th inst., Parker Handy, Esq. was elected Cashier, and A. G. Hammond, Esq. appointed Teller, in the room of J. D. W. and T. J. Calder, Esqs. resigned.

The number of inhabitants in the territory of Arkansas, with the exception of two counties, which have not yet been heard from, is 51,809.

ATROCIOUS ROBBERY BY A LANDLORD.—We learn by the Kingston (U. C.) Gazette, that a most infamous crime was perpetrated in that city, the week before last, by William Carroll, keeper of the Canal Coffee House. The sufferer is a Mr. Wilson, an English gentleman, who arrived at Quebec, in July last, in the Mary, from London, and whose object in visiting this country was to purchase lands. On arriving at Kingston, Mr. Wilson took up his abode at Carroll's and entrusted to him, for

safe keeping, a heavy square box, covered with matting and corded. The box contained Spanish dollars, and must have been worth at least \$800.—The wretch, Carroll, took advantage of the absence of Mr. Wilson, who had gone to Toronto on business, and on Wednesday evening, the 20th ult., he suddenly disappeared, carrying the box with him. It is said that he is gone to the United States by the way of Oswego.

AN ALTERNATIVE TO BE THOUGHT OF.—At the Anniversary Dinner of the public Schools in Boston, on Wednesday, the following toast was given by Edward Everett:

Education.—A better safeguard for Liberty than a standing army. If we retrench the wages of the schoolmaster, we must raise the wages of the recruiting Sergeant.

[From the Evening Post.]
(In imitation of the Ode in the 3d Canto of Don Juan, beginning with "The Isles of Greece! the Isles of Greece!")

MY NATIVE LAND.

I.
My native land! My native land!
A land with every gift replete,
All perfect from its Maker's hand,
An Empire's glorious seat!
And far removed from thrones and slaves,
There freedom's banner proudly waves.

II.
The frigid and the torrid clime,
The temperate and the genial beam,
The vale, the mountain top sublime,
The arid plain, the swelling stream,
There linked in Union's golden chain,
Bear witness to her vast domain.

III.
Her mountains look o'er realms serene,
O'er waving fields and cities free;
And mightiest rivers roll between,
And bear her wealth from sea to sea;
While o'er old ocean's farthest deep
Her banner'd navies proudly sweep.

IV.
On Plymouth's Rock the Pilgrim lands,
His comrades few, and faint with toil;
While warring tribes in countless bands,
Roam lawless o'er the uncultured soil.
A few brief years have rolled away,
And those dark warriors—where are they?

V.
And where are those, th' heroic few,
That landed on that rocky shore?
Their voice still rings—their spirit too
Still breathes—and will forever more!
For in their sons still burn those fires
That freedom kindled in their sires.

VI.
'Tis something—though it be not fame—
To know we spring from noble race,
To feel no secret blush of shame
For those we love, suffice our face.
Then let us to our sons transmit
A land and name unsullied yet.

VII.
To us was left in sacred trust,
A realm redeem'd, a glorious name,
The ashes of the brave and just,
Fair freedom and immortal fame!
And in our hearts the spirit dwells
Which power defies, and force repels.

VIII.
We've not to weep o'er glory fled—
We've not to brood o'er servile woe—
We call not on the illustrious dead
To shield us from a living foe;
And should our pride be o'er o'erthrown,
'T will be by native swords alone.

IX.
The standard which our sires unfurled,
And which through perils' path they bore,
Still floats o'er half the western world—
Still waves on many a distant shore—
And long shall wave, triumphant, free,
O'er dome and tower, o'er land and sea!

PARTNER WANTED.

Wanted, a partner in an extensive Printing Establishment. No one need apply who is not a thoroughbred printer, competent to superintend and direct an office in which upwards of 30 persons are employed, and able to furnish \$3000 cash capital. The best of references will be given and required. Letters, with real name, may be addressed to P. P. P., Post Office, New-York, postage paid, and they will be promptly attended to. May-if

TO TUNNEL CONTRACTORS.

Proposals will be received by mail, or otherwise, for excavating a Tunnel on the summit of the Sandy and Beaver Canal. The Tunnel is 800 yards long, the material to be removed is a soft sand-stone rock, the highest part of the ridge through which it passes is about 90 feet above the top of the Tunnel. As the deep cuts at the termination are not excavated, most of the material will have to be removed through shafts. Proposals must be accompanied with good recommendations, as to skill and competency.

E. H. GILL,

Engineer.

New-Lisbon, Ohio, Sept. 17, 1845.

LOCK GATES, FOR CANALS.

DAVID WILKINSON, of Cohoes, Albany county, State of New-York, have obtained Letters Patent for the United States for an improvement in Lock Gates, &c., invites the attention of engineers and constructors to his invention, the result of thirty years' practical experience. The chief feature of his invention is the SELF-ADJUSTING VALVE GATE, which is opened in a great degree by the force of the water, and is closed by the weight of the valve gate, rods and screws, and kept secure and close by a pull; the improvement requiring very little force, in aid of the power of the water, to raise the valve gate. The Lock Gate is kept perfectly tight, or free from sagging, by the method of adjusting the anti-friction roller upon the quadrant or circular railway. By means of a thimble on the capstan, the chain for moving the gate can never become tangled or ride on the capstan, and by means of a pull in the head of the capstan, it can never be turned the wrong way, thus effectually guarding against much danger.

There is a lock in operation at Hogansburgh, New-York, where the experiment has been fully tested, to the satisfaction of all scientific men who have viewed it, and which has a self-adjusting valve gate, opening an aperture five feet in length, by 18 inches in width, under a pressure of 24 feet lift.

Having transferred the Letters Patent to Mr. JOHN L. WILKINSON, canal contractor, rights to construct under the same, may be obtained from him by applications addressed to Cohoes P. O. Competent workmen to construct the gates and put them into operation, will be supplied, if desirable, either by the inventor or the assignee.

The following letter, from Judge WRIGHT, of New-York, one of the most experienced engineers in the United States, is conclusive with respect to the character of this gate:

"Moulinette, (U. Canada,) Aug. 14, 1835.

"DEAR SIR: I have here witnessed a trial of a new paddle gate invented by David Wilkinson, Esq., for Locks, to be introduced into the gates. It is 5 feet long, by 18 inches wide; and I am certain it is the best improvement of the kind which has been tried in this country. I think it will not get out of order, and is so simple, that a 12 years' old boy will open it; and there is no danger of throwing persons into the lock, from the operation, as nothing of the kind can happen.

"I think you will be much pleased with it. It applies its use to any head which can be used in locks, and is more particularly superior in the gates of the lock, to fill and empty rapidly, as easy as you please.

"I am, very respectfully, dear sir, your obedient servant,

"BENJ. WRIGHT.

"To EDWARD P. GAY, Esq.,
"Civil Engineer, Lancaster, Pa."

To which is added the testimony of J. B. MILLS, Esq., Engineer, who has been associated with the greatest works of internal improvement in the Union:

"Mr. Wilkinson has recently invented a VALVE for Lock Gates, which is undoubtedly of great value, and readily applied. Mr. W. has the contract for constructing the Lock Gates upon the St. Lawrence Canal, (which is the largest upon this continent,) where it is determined to adopt his valve, and his manner of working the same. Having the utmost confidence in Mr. W.'s valve, having seen it applied, I most confidently commend it to all those interested in the construction of Canal Locks.

"J. B. MILLS,
"Engineer St. Lawrence Canal.

"Corwall, (U. C.), Aug. 21, 1835."

TO CONTRACTORS FOR EXCAVATION AND MASONRY.

PROPOSALS will be received at the Office of the Philadelphia and Reading Rail Road Company, in Philadelphia, on the 19th and 20th days of October next, for the Grading and Masonry, of about sixteen miles of the Rail Road between Pottsgrove and Norristown.

In this distance, a large amount of heavy work, deserving the attention of skillful and competent Contractors, is to let. The Jobs of most magnitude, are a Tunnel 600 yards long, and a Bridge across the Schuylkill, near Phoenixville.

Plans and profiles of the line, and drawings of the different constructions on it will be exhibited, and all other information in relation to it will be afforded, on application at the Engineer's Office, at Pottsgrove, for ten days previous to the letting.

MONCURE ROBINSON, C. E.
Philadelphia, Sept. 2, 1835.

NEW-ORLEANS AND NASHVILLE RAILROAD.

NOTICE TO CONTRACTORS.

The New-Orleans and Nashville Railroad Company having decided to place under contract the first fifty miles of the Road, on the 15th day of December next, Proposals will be received at their Office, in the City of New-Orleans, from the 15th of November to the 15th day of December next, for the Graduation and Bridging of the same.

The Superintending Engineer, R. S. Smith, will be upon the ground to give every explanation relative to the manner of making Proposals, and such other information as may be required.

Of persons not personally known to the Engineer, there will be required certificates of character and qualifications.

This part of the road, extending along the shore of Lake Pontchartrain, is perfectly healthy throughout, and being the commencement of the most extensive work in the world, it cannot fail to be of great importance to Contractors to identify themselves with the work at its commencement, as those who are known to the Company as responsible and efficient will certainly be preferred to strangers during the future progress of the road.

The country through which the line passes is generally high pine ridge, and perfectly healthy.

H. J. RANNEY,
Chief Engineer N. O. & N. Railroad.
Engineer's Office, N. O. & N. Railroad,
Aug. 23, 1835.

RAILROAD IRON.

300 tons of Railroad Iron of the T pattern, just imported and for sale by
HOWLAND & ASPINWALL,
336 10t
55 South street.

RAILROAD CASTINGS.

MANY & WARD, Proprietors of the Albany Eagle Air Furnace and Machine Shop, will make to order car wheels, chairs and knees, and every other description of castings required for railroads.
R-17 Feb 14

AUBURN AND SYRACUSE RAILROAD.

NOTICE TO CONTRACTORS.

Sealed Proposals will be received until the 15th day of October next, at noon, by the undersigned, Chief Engineer and Agent of the Auburn and Syracuse Railroad Company, for the Grading, Masonry, and Bridges on said Road. Individuals disposed to contract for the execution of the whole or any part of the work, will be furnished on application at the Office of the Company in Auburn, with blank forms of proposals, and printed specifications.

The contracts will be formed in the usual manner—a specific price being stated for each item of work, which price is to include the cost of material and labor required in rendering the work complete.

The proposals to be accompanied with the names of sureties, and where the parties are unknown to the undersigned or resident Engineers, the usual certificates of character and solvency will be required.

Individuals who have been employed on other works, must furnish satisfactory recommendations from the Engineer or Superintendents of the same. A rigid adherence to the conditions of each contract will in all cases be required.

It is desired that all the work in each section, including Grading, Culverts, and Bridges, should be embraced in the same contract, and it is requested that the proposals be made accordingly.

The plans of the different structures will be ready for examination at the Office aforesaid, by the last day of October next.

EDWIN F. JOHNSON,
Chief Engineer & Agent A. & S. R. R. Company.
Auburn, Aug. 22, 1835.

AMES' CELEBRATED SHOVELS, SPADES, &c.

500 dozens Ames' back-strap and plain Shovels,
75 do do round-pointed do
150 do do cast steel Shovels and Spades,
100 do do Socket Shovels and Spades,
150 do do steel plated Spades,
Together with Pick Axes, Churn Drills, and Crow Bars, steel pointed, made from Salisbury refined iron. For sale by his Agents,

WITHERELL, AMES & CO.
2 Liberty street, New-York.
BACKUS, AMES & CO.
8 State street, Albany.

34-yfr

RAILROAD IRON WORK.

Of all kinds, made to order by GODWIN, CLARK & CO., Paterson, New-Jersey.

CAR WHEELS, BOXES, AXLES, and CAR SPRINGS, made and fitted complete, at short notice, and fair prices.

Orders addressed to them at Paterson, N. J., or 24 Broad street, N. Y., will meet with immediate attention.

Paterson, Aug. 19, 1835.

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads,
No. 264 Elizabeth street, near Bleecker street, New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad now in operation.

RAILROAD CAR WHEELS AND BOXES AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to.

Also, CAR SPRINGS.
Also, Flange Tires turned complete.

J. B. ROGERS, KETCHUM & GROSVENOR

PATENT RAILROAD, SHIP AND BOAT SPIKES.

The Troy Iron and Nail Factory keeps constantly for sale every extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years successful operation and now almost universal use in the United States (as well as England, where the subscriber obtained a Patent,) are found superior to any ever offered in market.

Railroad Companies may be supplied with Spikes having countersunk heads suitable to the holes in iron rails, to any amount and on short notice. Almost all the Railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. Y., will be punctually attended to.

Troy, N. Y. July, 1831.

Spikes are kept for sale, at factory prices, by I. & J. Townsend, Albany, and the principal Iron Merchants in Albany and Troy; J. L. Brower, 223 Water street, New-York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

F. S. Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand for his Spikes.

1234am H. BURDEN.

TO TUNNEL MINERS, DRILLERS, &c.

Wanted, immediately, 40 Tunnel Miners, (Cornish Miners will be preferred,) 80 Drillers, 50 Laborers, and two experienced Mine Blacksmiths, on the New-York and Harlem Railroad, about five miles from the City. Liberal wages will be given, and cash payments made every fortnight. Apply at Mr. FOWLER'S, St. John's Hall, Frankfort street, New-York.

JOHN BUTTER, Contractor.

The Albany Argus, Philadelphia U. S. Gazette and Pennsylvania, will please copy this, and send their bills to the Railroad Company, 14 Wall street, New-York. 23-4t

PATENT HAMMERED SHIP, BOAT, AND RAILROAD SPIKES.

Railroad Spikes of every description required, made at the Albany Spike Factory.

Spikes made at the above Factory are recommended to the public as superior to any thing of the kind now in use. Ship and Boat Spikes made full size under the head, so as not to admit water.

Orders may be addressed to Messrs. ERASTUS CORNING & CO., Albany, or to THOMASTURNER, at the Factory, Troy, N. Y. sept. 13-1y

RAILWAY IRON.

250 tons of 1 inch by 1 inch, Flat Bars in lengths of 300 do. 1 1/2 do. 14 to 16 feet, counter sunk 40 do. 1 1/2 do. holes, and cut at an angle 800 do. 2 do. of 45 degrees, with splicing plates and nails to 800 do. 2 1/2 do. suit.

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axles of 2 1/2, 3, 3 1/2, 3 3/4, 4, and 4 1/2 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

A. & G. KALSTON,
9 South Front street, Philadelphia.
Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use both in this country and Great Britain, will be exhibited to those disposed to examine them. d71meowr

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by

E. & G. W. BLUNT, 154 Water street, corner of Maiden lane.

J31 6t

SURVEYING AND ENGINEERING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new, among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also a Railroad Goniometer, with two Telescopes—and a Leveling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,
Mathematical Instrument Maker,
No. 9 Dock st., Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.
In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad, I cheerfully furnish thee the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to lateral angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,
JAMES F. STABLER, Sup't of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.

Germantown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad.

ml 1y Germantown, and Norrist. Railroad